University of the West of England
BRISTOL

MODULE SPECIFICATION

Part 1: Information			
Module Title	The Microbial World		
Module Code	USSKN7-15-2	Level	2
For implementation from	September 2018		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Health and Applied Sciences	Field	Applied Sciences
Department	Department of Applied Sciences		
Contributes towards	BSc (Hons) Environmental Science MSci Environmental Science		
Module type:	Standard		
Pre-requisites	USSK5C-30-1 Life on Earth		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

The indicicative content of this module will focus on the role of microorganisms in the environment

- **Roles of microorganisms in terrestrial and marine ecosystems:** students will develop an understanding of the role and significance of microorganisms in marine and terrestrial ecosystems and their importance in biogeochemical cycles.
- **Microbial cell-to-cell communication:** students will develop knowledge of microbial cell-cell communication, polymicrobial communities and the phenomenon of bacterial bioluminescence, including their roles in the environment and in human disease.
- **Eukaryotic mirrobiology:** students will develop an understanding of the diversity and role of the fungi and protozoa in the environment, and the contributuoin these environmental organisms make to human activities.
- **Microbial biotechnology:** students will develop an understanding of the utility of microorganisms in everyday life from historical uses including brewing and baking through to modern recombinant technologies includineg microbial energy.
- **The changing world:** students will develop an understanding of the changing relationship between mankind and microbes in the environment as humans continue to exploit the planet. This will include emerging and re-emerging disease, damage to the biogeochemical cycles which microbes underpin and how microbial biotechnology can be exploited to mitigate these processes, for example bioremediation and microbial fuel cells.

Part 3: Assessment

The controlled component is a written exam. The exam will be 3 hours duration which is consistent with the Department's assessment strategy for Level 2 modules. This assessment will provide students with an opportunity to demonstrate both their knowledge on a broad range of topics through a series of short answer questions, and more in-depth knowledge though a selection of medium length questions. This assessment will test a range of the learning outcomes and will provide a valuable learning experience through recalling and demonstrating knowledge which will be of benefit when progressing to final year modules.

The coursework comprises one component:

The coursework is a research review which will require students to complete a 1500 word written account on a beneficial environmental aspect of microorganisms. A requirement for the research review will be a link to aspects of the practical series. This will require data collection, handling and interpretation, experimental planning and the application of learning from the lecture material in experimental design in addition to discussion of results. This assessment will test a range of learning outcomes and will provide a valuable learning experience through applying knowledge and supporting this through the published literature.

Identify final timetabled piece of assessment (component and element)	**Component A – written exam**

% weighting between components A and B (Standard modules only)	**A:** **50**	**B**: **50**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Written exam (2 hours)	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. 1,500 word research review	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 exam (2 hours)	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. 1,500 word research review	100

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will be able to: • Understand the role and diversity of microorganisms in the environment in a variety of ecological niches (component A). • Evaluate the significance of a microorganisms in environmental cycling (component A and component B). • Understand the role of environmental change in influencing how microbes interact with humans and the environment. (component B). • Analyse data derived from laboratory study of microorganisms (component A and

component B).

Key Information Sets Information (KIS)

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

Contact Hours

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

Written Exam: Unseen or open book written exam
Coursework: Written assignment or essay, report, dissertation, portfolio, project or in class test
Practical Exam: Oral Assessment and/or presentation, practical skills assessment, practical exam (i.e. an exam determining mastery of a technique)

Total Assessment

Total assessment of the module:	
Written exam assessment percentage	50%
Coursework assessment percentage	50%
Practical exam assessment percentage	0%
	100%

Reading List

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.

https://uwe.rl.talis.com/lists/1EE6D42D-133F-787B-6DA0-A5FFBDF8BDFB.html?draft

Prescott, Harley and Klein "Microbiology" 7th edition, Pub: McGraw Hill.

Journal of Applied Microbiology

	Letters in Applied Microbiology Trends in Microbiology Current Opinion in Microbiology Applied and Environmental Microbiology

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