MODULE SPECIFICATION

Part 1: Information			
Module Title	Microbiology		
Module Code	USSKNF-15-1	Level	1
For implementation from	September 2020		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Health and Applied Sciences	Field	Applied Sciences
Department	Applied Sciences		
Contributes towards	FdSc Biological Laboratory Sciences, compulsory		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

This module will cover the following topics within the area of microbiology:

Three principal themes will underpin the delivery of this module: medical, industrial and ecological. These themes run throughout the syllabus.

Growth and identification of microorganisms: students will develop knowledge of the identification, characterisation and identification of microorganisms. Students will also investigate growth characteristics of microorganisms and variety of nutritional requirements.

Roles of microorganisms in various ecosystems: students will develop an understanding of the role and significance of microorganisms in marine and terrestrial ecosystems and their importance in biogeochemical cycles.

Microorganisms in health and disease: Students will develop an understanding of the role of the normal flora of the human body in both health and disease. Students will be introduced to a variety of infectious diseases, anti-microbial agents and current issues of antibiotic resistance.

Microbial biotechnology: students will develop an understanding of the utility of microorganisms within industry and scientific research.

Generic Graduate Skill	*Specific strand (eg presentation) - Optional*	Introduced	Developed	Evidenced
1. Communication	Written communication and oral presentation [A, B]	☐	☐	☒
2. Professionalism	Practical sessions [B]	☒	☐	☐
3. Critical Thinking	Evaluation of experiments [B]	☐	☐	☒
4. Digital Fluency	Digital assignment [A, B]	☐	☐	☒
5. Innovative and Enterprising		☐	☐	☐
6. Forward Looking	Analysis of research papers [B]	☒	☐	☐
7. Emotional Intelligence		☐	☐	☐
8. Globally Engaged	Current issues in microbiology [B]	☒	☐	☐

Part 3: Assessment: Strategy and Details

The assessment strategy has been designed to support and enhance the development of subject-based knowledge and practical skills, whilst ensuring that the learning outcomes are achieved.

Component A is a 15 minute oral presentation, followed by a 5 minute Q&A session. This assessment will provide students with an opportunity to demonstrate both their knowledge and science communication skills.

The coursework is comprised of four practical reports based on the selection of nine practical experiments carried out during laboratory sessions. This assessment will provide a valuable practical learning experience during which students will develop laboratory skills and aseptic techniques employed in the field of microbiology. In addition, students will be required to carry out independent research of published literature and development of academic writing style.

Opportunities for formative assessment and feedback are built into teaching and practical sessions, through discussion and evaluation of laboratory experiments. .

Identify final timetabled piece of assessment (component and element)	**Component B**

% weighting between components A and B (Standard modules only)	**A:**	**B**:
	30	**70**

First Sit

Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral presentation (15 min)	100
Component B	**Element weighting**

Description of each element	**(as % of component)**
1. Practical Reports (1,200 words per report)	100
Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral presentation (15 min)	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Practical Reports based on secondary data (1,200 words per report)	100

Part 4: Learning Outcomes & KIS Data

Learning Outcomes

On successful completion of this module students will be able to:

Investigate the diversity of microorganisms and their roles in human health, industry and the environment and communicate findings in a presentation format (A)

Explain the significance of microbiological techniques in identification and classification of microorganisms (B)

Evaluate the effectiveness of antimicrobial agents on the growth of microorganisms (B)

Understand practical techniques carried out in a microbiology laboratory; analyse and evaluate data derived from laboratory study of microorganisms (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	45	105	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 0% Coursework assessment percentage 70% Practical exam assessment percentage 30% 100%
Reading List	The following book is recommended as it covers most of the module material at an appropriate level. • Willey, J.M., Sherwood, L.M., Woolverton, C.J. (2014) *Prescott's Microbiology*; 9th ed. New York: McGraw-Hill. Extensive notes will be provided via blackboard on the scientific topics. Links to useful and credible websites will also be provided. The students are also advised to consult the basic scientific texts in UCW, Frenchay and Glenside libraries, of which the following is a representative sample: The latest editions of: • Baker, S., Griffiths, C., Nicklin, J. (2011) *BIOS Instant Notes Microbiology*, 4th ed. New York and London: Garland Science. • Madigan, M.T., Matinko, J.M. (2009) *Brock Biology of Microorganisms*. 12th ed.; San Fransisco: Benjamin-Cummings. • Harper, D.R. (2012) *Viruses-Biology/Applications/Control*. New York: Garland Science • Irving, W., Boswell, T., Ala'Aldeen (2005) *BIOS Instant Notes Medical Microbiology*. New York: Garland Science. • Strelkauskas, A., Strelkauskas, J., Moszyk-Strelkauskas, D. (2010) *Microbiology, a clinical approach*. New York: Garland Science. The following journals may also include relevant material and are available through the UWE Library: • Trends in Microbiology • Nature • Microbiology

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First CAP Approval Date	17/5/2018			
Revision CAP Approval Date Update this row each time a change goes to CAP		Version	1	APDG approval 26/1/2018
Revision Approval Date	06/11/2019	Version	2	