



Module Specification

Microbiology

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Part 1: Information

Module title: Microbiology

Module code: USSKB6-15-2

Level: Level 5

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Infection and Disease 2023-24

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Pre-requisites: students must have Pathophysiology of Disease (USSKA7-30-1) OR Infection and Disease (USSKA7-30-1).

Features: Not applicable

Educational aims: This module aims to deepen your understanding of microorganisms, in particular of bacteria and viruses. By covering fundamental aspects of the bacterial genome, cell structure and physiology, you will gain an

insight into their roles in bacterial adaptability, survival and pathogenicity. You will learn about viruses, including viruses of bacteria (bacteriophages), how they are cultivated and their replication cycles.

Outline syllabus: Bacterial growth and death: optimising growth and analysing death

The structure and significance of bacterial cell walls and outer membranes

Bacterial transport and communication systems: uptake and efflux, quorum sensing

Evolution, the bacterial genome and recombinant DNA technology

The viruses: virus structure, classification and replication

Microbial diseases, virulence factors and control of disease: focus on specific pathogens in the context of the generalised infection cycle and an introduction to epidemiology

Generic graduate skills introduced:

Innovative and enterprising

Emotional intelligence

Generic graduate skills developed:

Communication

Professionalism

Critical thinking

Digital fluency

Forward Looking

Globally Engaged

Generic graduate skills evidenced:

Communication

Professionalism

Critical Thinking

Digital Fluency

Globally Engaged

Part 3: Teaching and learning methods

Teaching and learning methods: See Assessment

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Describe important features of microbial structure and physiology and relate these to the success of microorganisms as pathogens or their survival in the environment

MO2 Describe the unique nature of viruses

MO3 Describe the organisation, modification and manipulation of the bacterial genome

MO4 Contextualise the microbial infection cycle

MO5 Analyse data derived from laboratory study of microorganisms

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 117 hours

Face-to-face learning = 33 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/usskb6-15-2.html) via the following link <https://uwe.rl.talis.com/modules/usskb6-15-2.html>

Part 4: Assessment

Assessment strategy: Assessment Task 1 is an online exam. This assessment will provide students with an opportunity to demonstrate both their knowledge on a broad range of topics and more in-depth knowledge of specific areas. This assessment will test the full range of 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 (Assessment Task 2):

This is a researched essay which will require students to complete a 1000 word written account on an aspect of microorganisms. This exercise provides a valuable learning experience through applying knowledge whilst supporting and expanding upon this through the published literature. It is designed to encourage discussion, as opposed to just description, of specific aspects of microorganisms. It builds upon literature searching and evaluation skills acquired at level 4 and supports the development of these, in preparation for level 6.

Students are provided with formative feed-forward for their exam through a revision and exam preparation session prior to the exam and through the support materials supplied through Blackboard.

All work is marked in line with the Faculty of Health and Applied Sciences Generic Assessment Criteria for Level 5 and conforms to university policies for the setting, collection, marking and return of student work. Assessments are described in the Module handbook that is supplied at the start of module.

Assessment tasks:

Examination (Online) (First Sit)

Description: Online examination (24 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Written Assignment (First Sit)

Description: Essay (1000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO4

Examination (Online) (Resit)

Description: Online examination (24 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Written Assignment (Resit)

Description: Essay (1000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Applied Biomedical Science [Frenchay] BSc (Hons) 2022-23

Biomedical Science [Frenchay] BSc (Hons) 2022-23

Biomedical Science [Frenchay] MSci 2022-23

Biomedical Science [Sep][PT][Frenchay][6yrs] BSc (Hons) 2021-22

Biomedical Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2021-22

Biomedical Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22

Biomedical Science [Sep][PT][Frenchay][8yrs] MSci 2021-22

Biomedical Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2021-22

Biomedical Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2021-22

Biomedical Science [Sep][PT][Frenchay][6yrs] BSc (Hons) 2020-21

Biomedical Science [Sep][PT][Frenchay][8yrs] MSci 2020-21