

# HUMAN MICROBIAL DISEASES - 2024/5

Module code: BMS3079

## Module Overview

N/A

Module provider

School of Biosciences

Module Leader

MALUQUER DE MOTES Carlos (Biosciences)

Number of Credits: 15

ECTS Credits: 7.5

Framework: FHEQ Level 6

Module cap (Maximum number of students): N/A

## Overall student workload

Independent Learning Hours: 67

Lecture Hours: 30

Tutorial Hours: 3

Guided Learning: 30

Captured Content: 20

## Module Availability

Semester 1

## Prerequisites / Co-requisites

Prerequisite: BMS2037 Cellular Microbiology and Virology

# Module content

Content topics include but are not limited to:

- Bacteriology – bacterial survival; bacterial toxins; type III secretion systems; Neisseria; Mycobacteria; Streptococci; Protozoa.
- Virology –acute vs persistent viruses; immune sensing of viruses; skin viruses; neurotropic viruses, insect-borne viruses; blood-borne viruses; respiratory viruses; oncogenic and congenital viruses.

The module also requires students to interpret and understand the content delivered by lecturers and to explore and understand primary research literature, encouraging the development of independent critical thinking, resourcefulness and digital technology literacy.

## Assessment pattern

Assessment type	Unit of assessment	Weighting
Online Scheduled Summative Class Test	Online (Open Book) EMQ (60 mins) and Short-Answer Question (40 mins) Test	50
Examination Online	Online (Open Book) EMQ (60 mins) and Short-Answer Question (40 mins) Exam	50

## Alternative Assessment

N/A

## Assessment Strategy

The assessment strategy is designed to provide students with the opportunity to demonstrate that they obtained a deep understanding of the human diseases caused by bacteria, viruses and protozoa and their pathogenesis.

Thus, the summative assessment for this module consists of:

100-min in-class test with 12 Extended-matched multiple choice questions (EMQ) and 2 essay questions to pick from a choice of 3, assessing students understanding of the first semester block on bacterial and protozoal pathogenesis

100-min final examination with 12 Extended-matched multiple choice questions (EMQ) and 2 essay questions to pick from a choice of 3, assessing students understanding of the second semester block on viral pathogenesis

### Formative assessment and feedback

The students will receive timely feedback during the course of the semester by engaging in interactive teaching activities that will allow them to monitor their progress.

The module coordinator will discuss assessment strategy during the initial tutorial and teaching staff will highlight during the two pre-exam tutorial general points that are key for succeeding in the tests. These tutorials will also address questions from students

about past exam questions and collectively students will attempt to answer some of them, which will also involve peer-marking.

Importantly, a week without lectures ahead of the interim in-class test is always timetabled to aid with revision.

Module aims

- Provide an understanding of the principles regulating host-pathogen interactions and microbial pathogenesis for protozoa, bacteria and viruses
- Describe the main properties of the major protozoal, bacterial and viral groups causing disease in humans.
- Explain the biology, tropism and host range of the major protozoal, bacterial and viral groups causing disease in humans.
- Explain the pathogenesis of the major protozoal, bacterial and viral groups causing disease in humans.
- Provide an understanding of the diagnosis and therapeutic interventions applicable to the major protozoal, bacterial and viral groups causing disease in humans.

Learning outcomes

		Attributes Developed
001	Describe the life cycle of the major protozoal, bacterial and viral groups causing disease in humans	KC
002	Compare and contrast interactions between humans and major human protozoal and bacterial groups	KCT
003	Compare and contrast interactions between humans and major human viral groups	KCT
004	Compare and contrast pathogenesis of major protozoal and bacterial groups causing disease in humans	KCT
005	Compare and contrast pathogenesis of major human viral groups causing disease in humans	KCT
007	Discuss current and future diagnosis and therapeutic interventions for major viral groups causing disease in humans	KCPT
006	Discuss current and future diagnosis and therapeutic interventions for major protozoal and bacterial groups causing disease in humans	KCPT

Attributes Developed

C - Cognitive/analytical

K - Subject knowledge

T - Transferable skills

P - Professional/Practical skills

Methods of Teaching / Learning

The learning and teaching strategy is designed to:

- Provide knowledge and understanding of the principles of bacteriology and virology, including infectious cycle, host range and transmission mode.

- Provide knowledge and understanding of the nature of the host immune response against bacteria and viruses
- Provide knowledge and understanding of how specific groups of bacteria, protozoa and viruses cause disease in humans
- Equip the students with biomedical knowledge applicable to health and medical sciences and related professions
- Enable students to identify areas needing further support
- Provide timely feed-back to consolidate knowledge

The learning and teaching methods include:

- Lectures – most of the content will be delivered in this way. An expert academic in the field will teach the content, adding small discussions and critical questions to prepare you for independent thinking and study.
- Content revision tutorials – each block of lectures will be wrapped up with a tutorial session led by one of more academics where content will be revisited and examples of exam questions will be discussed.
- Test feedback sessions – you will have the opportunity to discuss the outcome of your tests in a session aimed at identifying what went well and what did not in preparation for future tests.

Indicated Lecture Hours (which may also include seminars, tutorials, workshops and other contact time) are approximate and may include in-class tests where one or more of these are an assessment on the module. In-class tests are scheduled/organised separately to taught content and will be published on to student personal timetables, where they apply to taken modules, as soon as they are finalised by central administration. This will usually be after the initial publication of the teaching timetable for the relevant semester.

### Reading list

<https://readinglists.surrey.ac.uk>

Upon accessing the reading list, please search for the module using the module code: **BMS3079**

### Programmes this module appears in

Programme	Semester	Classification	Qualifying conditions
<a href="#">Biological Sciences (Infection and Immunity) BSc (Hons).</a>	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module
<a href="#">Biological Sciences BSc (Hons).</a>	1	Optional	A weighted aggregate mark of 40% is required to pass the module
<a href="#">Biomedical Science BSc (Hons).</a>	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module
<a href="#">Biomedical Science MSci (Hons).</a>	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module

Programme	Semester	Classification	Qualifying conditions
<a href="#">Microbiology BSc (Hons)</a>	1	Compulsory	A weighted aggregate mark of 40% is required to pass the module

Please note that the information detailed within this record is accurate at the time of publishing and may be subject to change. This record contains information for the most up to date version of the programme / module for the 2024/5 academic year.