UNIVERSITY of BRADFORD

Module Descriptor

Medical Microbiology

Module Code:	BIS5008-B
Academic Year:	2018-19
Credit Rating:	20
School:	School of Chemistry and Biosciences
Subject Area:	Biomedical Science
FHEQ Level:	FHEQ Level 5
Module Leader:	Dr Jonathan Fletcher

Additional Tutors:
Dr Dean Harrington, Ms Kara Thornton

Pre-requisites:	Introductory Microbiology 2017-18
Co-requisites:	

Contact Hours

Type	Hours
Lectures	31
Practical classes and	3
Laboratory	9
Directed Study	157

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 1 (Sep - Jan)

Module Aims

To consider the variety and role of pathogenic micro-organisms, and their relationship to disease; provide an introduction to host/microbe interactions in health and disease; consider the culture, identification and characterisation of microbes in relation to the practice of diagnostic microbiology; illustrate the importance of selected pathogens in human health and disease.

Outline Syllabus

Review of the diversity of microbial pathogens; isolation and identification of medically important bacteria and viruses; the normal human flora; epidemiology of infectious disease. Modern diagnostic techniques. Healthcare associated infections; gastro-intestinal disease; urinary tract pathogens; respiratory tract infections; sexually transmitted infections. Studies on specific bacterial pathogens: Helicobacter pylori, staphylococci, streptococci, spirochaetes, mycobacteria. The host defences against infection, and the immune response to infection. Pathogenicity and virulence factors: toxins and invasion strategies. Antimicrobial chemotherapy of bacterial infections, the evolution of resistance to antimicrobial agents. Medically important fungi. Viral infections and their chemotherapy; latent and persistent viral infections. Concepts in vaccine development and production. Involvement of micro-organisms in cancer.
Private study will be facilitated and supported via the use of the VLE which will provide coursework advice and feedback, and revision support.
Reassessment of failed elements will be as per the initial method of assessment. Where reassessment of the practical element is required, students will be given a data set or an opportunity to complete the practical on an alternative occasion, whichever is more appropriate.

Module Learning Outcomes

On successful completion of this module, students will be able to...

1 Understand the diversity of micro-organisms associated with humans in health and disease, including those associated with emerging infections.

2 Understand the basic mechanisms of microbial pathogenesis and how infectious disease is diagnosed, prevented and treated.

3 Understand the role of the microbiology laboratory in the diagnosis and treatment of infectious disease (HCPC standards 13, 14, 15).

4 Identify and use appropriate laboratory techniques to isolate and identify pathogenic bacteria.

5 Understand the need for and demonstrate reproducibility in experimental procedures, have knowledge of the use and operation of specialist equipment involved in diagnosis of infectious disease.

6 Understand the need to maintain a safe working environment for both yourselves and others in the laboratory.

7 Use research reasoning and problem-solving in a logical and systematic way.

Learning, Teaching and Assessment Strategy

The core information required for the knowledge and understanding in this module is delivered in the lectures. Workshops explore the concepts and theories of the epidemiology of infectious disease, and the isolation and characterisation of bacteria and viruses which cause such disease. The practicals will employ a variety of tests to prove the involvement of specific bacteria in infection, and to isolate, identify and characterise these.

Reassessment of failed elements will be as per the initial method of assessment. Where reassessment of the practical element is required, students will be given a data set or an opportunity to complete the practical on an alternative occasion, whichever is more appropriate.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - practical/laboratory	Practical assessment in the form of an in-lab test during the third practical session and subsequent question sheet (LOs 1, 3-7)	1 hour	20%	No
Summative	Examination - closed book	Examination comprising MCQ (30%) and two short critical essays from a choice of four (30%) (LOs 1&2)	2 hours	60%	Yes
Summative	Coursework	Case study (LOs 1, 2, 7)	2 hours	20%	No

Legacy Code (if applicable)

BM-3101D

Reading List

To view Reading List, please go to **rebus:list**.