

Module Details	
Module Title	Diagnostic Microbiology
Module Code	BIS6022-B
Academic Year	2024/5
Credits	20
School	School of Chemistry and Biosciences
FHEQ Level	FHEQ Level 6

Contact Hours	
Type	Hours
Lectures	22
Directed Study	178

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims
<p>Infection by microbial species can cause a plethora of human diseases with variation in the severity of symptoms. Treatment options are species specific and using the wrong treatment can make symptoms worse. Therefore, accurate detection and diagnosis of the pathogenic microbe is vital.</p> <p>This module supports the Healthcare Science programme by developing learners understanding of diagnostic procedures in Healthcare Science (PLO12) through understanding strategies to prevent and investigate bacterial infections. This module also enables students to understand and gain experience of the application and delivery of a range of core and specialised methods and techniques from across the infection sciences.</p> <p>This module will support those students seeking knowledge to support their employment in healthcare laboratories, medicine and medical research.</p>

Outline Syllabus

Academic content:

- The principles of scientific enquiry
- The mechanisms of bacterial infection
- Diagnostic, investigative or monitoring procedures
- Quality control/assurance requirements
- Microbiological methods and techniques for the investigation of infection in the community and hospital setting.
- Tests used for commonly encountered aerobic and anaerobic bacterial infections of the skin, respiratory tract, digestive tract and reproductive tract.
- Laboratory investigations of infectious disease in the community and guidelines for the optimum treatment of community based infection.
- The sources and routes of transmission, the diagnosis of and strategies to reduce hospital-acquired infections (HAI)
- Anti-microbial therapy.
- Evaluation of treatment efficacy

Employability and enterprise skills:

- Biomedical knowledge and understanding
- Data presentation skills
- Writing skills
- Diagnostic testing
- Time management
- Critical thinking
- Teamwork

Learning Outcomes	
Outcome Number	Description
01	Understand common bacterial infections and the methods used in their investigation.
02	Evaluate different microbiological methods and techniques for the investigation of infection in the community and hospital setting.
03	Understand the mechanism of bacterial infection & investigation of patients suspected of having bacterial infection.
04	Critically evaluate the tests used for commonly encountered aerobic & anaerobic bacterial infections of the skin, respiratory tract, digestive tract & reproductive tract.
05	Analyse laboratory investigations of infectious disease in the community and guidelines for the optimum treatment of community based infection.
06	Understand the sources and routes of transmission, the diagnosis of and strategies to reduce hospital-acquired infections (HAI).
07	Discuss anti-microbial therapy.
08	Present and analyse data in simple terms in both oral and written formats.
09	Conduct a suitable range of diagnostic, investigative or monitoring procedures and address quality control/assurance requirements.
10	Apply the principles of scientific enquiry, including the evaluation of treatment efficacy and the research process.
11	Effectively manage your workload, resources and work successfully to a deadline. Demonstrate personal responsibility for self-directed learning and time management. HCPC competencies covered by this module include: 1.2, 3.3, 4.2, 4.3, 4.4, 4.5, 5.1, 9.1, 10.3, 13.1, 13.8, 13.9, 13.10, 14.9, 14.19, 14.28.

Learning, Teaching and Assessment Strategy
<p>The LTA strategy encompasses education for employability and equal opportunities for learners. Learning will be facilitated by a series of interactive lectures and tutorials as well as practical work. Lectures will be supported by formative case studies that aim to develop the students' abilities to apply their knowledge to microbial infection problems. Here the students will work in groups under the guidance of facilitators to solve problems and interpret data. Finally, the practical class will develop written communication and data presentation skills.</p> <p>Private study will be facilitated and supported via the use of the VLE which will provide coursework advice and feedback, and revision support.</p> <p>Reassessment of failed elements will be as per the initial method of assessment.</p> <p>The following statement applies to learners that are completing this module as part of an Apprenticeship.</p> <p>The apprentice must meet all the required standards when measured against each individual learning outcome for the module (as mapped below):</p> <p>Section 1: 8.2 Section 2: 5.1, 5.2, 5.4, 5.5</p>

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Examination - Closed Book	Two from a choice of five essays (2 Hrs)	60%
Summative	Examination - Closed Book	Short answer questions and data analysis	20%
Summative	Presentation	Oral Presentation (20 minutes)	20%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

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