

MD2B3-30 Infection: Prevention and Outbreaks

23/24

Department

Warwick Medical School

Level

Undergraduate Level 2

Module leader

Daniel Todkill

Credit value

30

Module duration

7 weeks

Assessment

40% coursework, 60% exam

Study location

University of Warwick main campus, Coventry

Description

Introductory description

To facilitate an in-depth understanding of infection as it pertains to prevention and outbreaks.

[Module web page](#)

Module aims

To facilitate an in-depth understanding of infection as it pertains to prevention and outbreaks. Students will experience integrated perspectives about infection, prevention and outbreaks from the course themes which are consolidated and advanced through case-based learning.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

This module will follow the integrated food module and the assessment for that block. The topics covered in this module are generally more extensive meaning that the block is more directed in its nature than some others. Again, the module will build from taught content with lecture theatre-

based presentations and interactive presentations as well as case-based learning sessions, all supported by TEL and online content.

In the medical sciences, students will cover in some depth the areas of immunology in response to pathogens. Students will learn about organisation and development of the immune system, its activation upon stimulation, microbiology and the defence mechanisms against different pathogens. A key highlight will be discussions surrounding resistance to drugs and antibiotics including the causes, and possible next steps. Different contexts for the use of technology in these fields will also be discussed.

In the health sciences, patient safety, occupational health and wellbeing and risk assessment at work will form the large topic area of prevention. Different expectations and different workplaces (for example an office vs the military) will bring out the complexities in understanding how and why people might expose themselves to pathogens for a humanitarian goal. The concept of, and methodologies surrounding, epidemiological investigation will serve to link public health, patient safety and the biomedical and health sciences.

The cases in this module will explore contemporary examples of viruses and bacteria. Students will consider that problem solving in this area might be industry based, environment driven and population focussed. There will also be discussion of the possible complex nature of research involving infection, prevention and outbreaks.

Learning outcomes

By the end of the module, students should be able to:

- 1. To develop a broad understanding of the key concepts, principles and theories, which will support a multidisciplinary approach to understanding of infectious diseases
- 2. To interrelate the underlying mechanisms of the immune response to pathogens to inform an understanding of the transmission and transduction of infectious disease and the role of technology for managing infectious disease outbreaks
- 3. To appreciate the ethical, legal, economic and social implications of infectious disease
- 4. To investigate the relationships between the immune system, socioeconomic factors and patient/population vulnerability
- 5. To explore public health, patient safety and harm prevention strategies in the field of infectious disease
- 6. Explore in-depth epidemiology and biomedical aspects of a communicable disease
- 7. To develop and use strategic planning and reasoning skills to engage with others to individually or collectively put forward structured ideas that can have a positive influence on local and global challenges in health

Indicative reading list

1. Carr et al. (2007) An introduction to public health and epidemiology. 2nd edition. Open University Press.
2. Fleming and Parker. (2016) Introduction to public health. 3rd edition. Churchill Livingstone Australia.
3. Playfair and Chain. (2012) Immunology at a glance. 10th edition. Wiley-Blackwell.

3. Gillespie and Bamford. (2012) Medical Microbiology and infection at a glance. 4th edition. WileyBlackwell.
4. Nairn and Helbert. (2007) Immunology for medical students. 2nd edition. London: Mosby.

Subject specific skills

Knowledge and understanding of the infectious diseases locally and globally and the ability to investigate such health problems from the integrated perspectives of Health Sciences and Medical Science

Ability to recognise factors that influence and determine risk of infectious diseases and outbreaks

Ability to explore strategies that can prevent or reduce harm to general public in the field of infectious diseases

Transferable skills

critical thinking, Self-directed learning, evidence-based approach to problem solving, time management, integration of information, group learning

Study

Study time

Type	Required
Lectures	38 sessions of 1 hour (22%)
Seminars	25 sessions of 1 hour (15%)
Online learning (scheduled sessions)	20 sessions of 1 hour (12%)
Private study	87 hours (51%)
Total	170 hours

Private study description

Students would be expected to engage in 217 hours of self-directed learning outside other learning and teaching activities outlined above. 60% of this time (130h) is allocated for preparation and undertaking assessments.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group D

	Weighting	Study time
Case Study	40%	52 hours
Students will be provided with a choice of case scenarios related to the topics covered during the module (infectious diseases and outbreaks). Students are required to investigate one case from the integrated perspectives of health science and medical science. Prompts will be provided to guide student's exploration of the case study.		
Locally Timetabled Examination - Multiple Choice	30%	39 hours
Multiple choice exam undertaken in 90 min		
Locally Timetabled Examination - Synoptic Paper	30%	39 hours
Aims to integrate information across food, infection and interactions modules in second year of the course.		

Feedback on assessment

Feedback will be provided to students from their multiple choice/short answer question examinations by highlighting the topic areas the student answered incorrectly. The case study and synoptic exam will be marked using standardised rubrics, which will provide feedback to the students (including individualised feedback) in line with WMS assessment criteria (including submission to Plagiarism software). Further verbal feedback will be available to students on request. Every student who fails an element of assessment will be offered an appointment for face to face feedback.

[Past exam papers for MD2B3](#)

Availability

Courses

This module is Core for:

- UMDA-B990 Undergraduate Health and Medical Sciences
 - Year 2 of B990 Health and Medical Sciences
 - Year 2 of B990 Health and Medical Sciences