

# MD2B3-30 Infection: Prevention and Outbreaks

**26/27**

**Department**

Warwick Medical School

**Level**

Undergraduate Level 2

**Module leader**

Roberto Vivancos

**Credit value**

30

**Module duration**

7 weeks

**Assessment**

40% coursework, 60% exam

**Study location**

University of Warwick main campus, Coventry

---

## Description

### Introductory description

This module aims to facilitate a broad base understanding of infection, disease outbreak and prevention by integrating knowledge and approaches from immunology, drug resistance and patient safety, occupational health and understanding of risk. These integrated perspectives will be consolidated and advanced through case-based learning.

[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**

[Reading lists can be found in Talis](#)

## Interdisciplinary

Students will learn about infections, covering aspects of biomedical science, immunology, behavioural science and public health, to understand how infectious diseases can be prevented and controlled. Management of outbreaks requires the combined efforts of interdisciplinary teams targeting control efforts tailored to each specific infection and their mode of transmission.

## International

Infections know no boundaries, with outbreaks able to spread through small closed-nit communities, as national epidemics or global pandemics. Students are encouraged to consider control of infections in different settings, health systems and the combined international efforts to lessen the impact of international epidemics, and the response to pandemics.

## 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 (13%)
Seminars	25 sessions of 1 hour (8%)
Online learning (scheduled sessions)	20 sessions of 1 hour (7%)
Private study	87 hours (29%)
Assessment	130 hours (43%)
Total	300 hours

## Private study description

Students would be expected to engage in 87 hours of self-directed learning outside other learning and teaching activities outlined above.

## 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 D1

	Weighting	Study time	Eligible for self-certification
<b>Assessment component</b>			
Synoptic coursework: exploration of a cross-module case study with accompanying concept map	40%	60 hours	No
Students will explore a patient or population case that brings in elements from all of the shared-assessment modules in this year, this will be accompanied by a concept map and narrative that will be used to explain the relationship between factors and topics covered in the case exploration			
<b>Reassessment component</b>			
Synoptic coursework: exploration of a cross-module case study with accompanying concept map			No
Students will explore a patient or population case that brings in elements from shared-assessment modules in this year that have not already been passed at the first attempt or otherwise require resubmission. All resubmissions will be accompanied by a concept map and narrative that will be used to explain the relationship between factors and topics covered in the case exploration. Word count will be (1) 3500, (2) 2500 or (3) 2000 depending on which shared-assessment module/s this reassessment aligns to.			

Assessment component

	<b>Weighting</b>	<b>Study time</b>	<b>Eligible for self-certification</b>
Infection Multiple Choice Question/Short Answer Question examination	60%	70 hours	No
Total of 100 marks. 25 MCQ single best answer questions at 1 mark each, 75 marks from SAQs.			

Reassessment component is the same

## Feedback on assessment

The coursework 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 will be offered an appointment for face to face feedback.

[Past exam papers for MD2B3](#)

---

## Availability

### Courses

This module is Core for:

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