

Module Specification

Module Summary Information

1	Module Title	Control of Global Infectious Disease
2	Module Credits	20
3	Module Level	6
4	Module Code	BMS6000

5	Module Overview
<p>The socioeconomic burden of human infection by microorganism on a global scale is vast. For example, there are approximately 2.5 million reported cases of antibiotic resistant bacterial infection per year in the EU and US combined, resulting in 50,000 deaths. Globally, deaths resulting as a consequence of drug resistant bacteria equate to more than 700,000 per year. These numbers however, caused specifically by drug resistant bacteria, only tell one chapter of the story. Total deaths per year caused by Tuberculosis (TB) infection alone is more than 1.5 million, and the global socioeconomic burden of norovirus induced gastroenteritis is around 700 million cases every year. With an increase in the resistance of microorganisms to current treatments, and an increase in population mobility worldwide, comes an increase in the chances of infectious diseases spreading rapidly from continent to continent.</p> <p>In this module you will learn about the impact of infectious disease outbreaks around the world and the epidemiological strategies used to monitor and prevent them. You will explore the microorganisms that are the causative agents of disease, learn how infection is transmitted, study the impact on human health and the current strategies to combat disease.</p> <p>Alignment with Programme Philosophy and Aims:</p> <p>In this module, you will apply the knowledge that you have gained throughout the degree programme to investigate diseases that have a profound socio-economic impact on an international scale. This module will concentrate on human disease caused by microorganisms, building specifically on learning from the level 5 Infectious Disease module. You will be encouraged to consider the challenges faced by the international community in the containment of disease outbreaks, and the contemporary epidemiological techniques and therapeutic strategies employed to eradicate the threat.</p> <p>Learning and Teaching Strategy:</p> <p>In this module, you will learn during interactive lectures, workshops and practical sessions. The emphasis during these sessions will be on investigation and you will be expected to engage in independent learning to facilitate learning. You will learn through discussion and interaction with your peers, to build a broad opinion base upon which to enhance your knowledge and understanding. The module will be supported by a Moodle page, where a range of pre- and post- session resources will be available to facilitate your learning. Video tutorial, instructional pre-laboratory videos, web-based resources and recommended current scientific articles will all be provided. There will also be a selection of example examination questions for you to use in order prepare for the module assessment.</p> <p>To achieve the required 20 credits for this module, you will need to dedicate at least 200 hours</p>	

studying the module material. For this module, the time is broken down in an approximately 20:80 ratio (directed: self-directed). The scheduled learning activities will include lectures, tutorials, practical sessions and facilitated discussions; approximately 20% of this learning will take place in an online environment.

Assessment Strategy:

The Module will be assessed via an oral presentation, where all aspects of an outbreak response will be dissected.

6	Indicative Content
	<ul style="list-style-type: none"> • Role of surveillance systems in the monitoring and alerting of potential outbreaks / epidemics of infectious diseases • Factors leading to emerging / re-emerging pathogens • Introduction to next generation DNA sequencing technology • Application of whole genome sequence data to investigate epidemiology of infectious diseases • Application of whole genome sequence data to investigate properties of novel pathogens • The antibiotic resistance crisis – managing the problem and its challenges • Viruses and their impact on health worldwide • Insect-borne diseases • Impact of climate change on infectious disease epidemiology

7	Module Learning Outcomes
	On successful completion of the module, students will be able to:
	1 Examine the socio-economic impact of a range of pathogenic microorganisms on the global human population.
	2 Discuss and appraise the infection and transmission mechanisms of pathogens.
	3 Evaluate a global response strategy for the prevention of spread of infectious pathogens.

8	Module Assessment		
Learning Outcome			
	Coursework	Exam	In-Person
1,2,3			X

9	Breakdown Learning and Teaching Activities	
Learning Activities	Hours	
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	40	
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	50	
Private Study (PS)	110	
Total Study Hours:	200	