

Module 3 (undertaken in Year 1 if completing the MRes as a part time student)

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| Title: | Zoonoses and Comparative Infectious Disease Biology |
| Module/Unit Coordinator(s): | Dr Janet Nale |

Module/Unit Summary

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| Module/Unit Aims: |
| <p>This module aims to contextualise infectious diseases in a Planetary Health framework providing a foundation into the fundamental biology of disease transmission and the factors that affect it. Modules aims to provide students with the knowledge of the variety of major pathogenic organisms including viruses, bacteria and parasites as well as developing an understanding of the detailed interactions of pathogens and their hosts from the molecular to the population level. This module also aims to enhance skills and knowledge of the techniques used to identify and control pathogenic organisms.</p> |
| Module/Unit Intended Learning Outcomes: |
| <p>On successful completion of this module/unit, learners will be able to:</p> <p>LO1: Evaluate how infectious diseases impact on planetary health from a local to global perspective within the context of treatment and control.</p> <p>LO2: Evaluate the complexities of pathogen–host interactions including pathogen adaptations, pathogenesis, and disease abundance and distribution.</p> <p>LO3: Use and critique the standard methods to identify selected zoonotic pathogens of medical and veterinary importance, determining appropriate responses.</p> |
| Module/Unit Content: |
| <p>Provide a synopsis of module/unit content.</p> |

The module will provide the fundamental principles of the biology of pathogens and their interactions with their hosts from the molecular to population level. The module will start by providing grounding in disease biology, including the essential concepts in immunology, evolutionary biology and providing a global context surrounding disease distribution and control. The module will focus on key zoonotic and animal pathogens and focus on a selection of diseases caused by viruses, bacteria, and parasites. The module will focus on the factors affecting transmission of disease, including an understanding of life cycles, and associated pathogenesis as well as a critical analyses of the diagnostics, treatments, and control methods. The module will also provide practical sessions focused on the identification of pathogens using modern techniques.

| Expected Learning Hours:* | |
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| Total number of hours of learning ⁵ | 150 |
| Classroom learning ⁶ | 34 |
| Practical learning | 18 |
| Work-based learning | 0 |
| Directed online learning | 20 |
| Independent learning | 78 |