

Course Title/Code: **Emerging Infectious Diseases and "One Health" (MMPH6206)**

Department: School of Public Health

Objective:

1. To describe and analyze the ecological, environmental, microbial, host and social factors contributing to the emergence and re-emergence of infectious diseases in humans.
2. To develop the ability in assessing the factors that led to the emergence of contemporary emerging infectious disease events and evaluating the options for their control.
3. To critically evaluate the role of the "One health concept" and its role in preventing emergence of, and response to novel infectious diseases.
4. To develop and justify public health response plans to deal with contemporary emerging infections.

Content: Topics include:

- Overview on the origins and pathogens causing emerging and re-emerging infectious diseases
- From SARS to MERS
- Interspecies transmission: crossing the species barrier
- Pandemic influenza and avian flu H5N1 & H7N9
- Vector borne infectious disease and impact of environmental change: dengue fever, Chikungunya, and Japanese Encephalitis
- Food Safety: Transmissible spongiform encephalitis, Enterohemorrhagic E. coli, and antibiotic resistance
- Hendra and Nipah viruses, emerging threats?
- Pathogen eradication
- Debate
- HIV
- Viral hemorrhagic fevers
- Summary and discussion on emerging infectious diseases.

Learning Outcomes:

1. Describe the environmental, ecological, societal, microbial and host factors associated with the emergence of infectious diseases in humans.
2. Analyse the ecological and biological factors that led to the emergence and spread of emerging and re-emerging infectious diseases including a) H5N1 and H7N9 avian influenza as well as the 2009 pandemic influenza in animals and humans, b) SARS and MERS, c) Nipah & Hendra viruses, d) food associated pathogens, e) mosquito-borne diseases (dengue, Japanese encephalitis, and chikungunya), f) HIV, and g) viral hemorrhagic fevers, and critically evaluate the options available for control.
3. Review the strategies and challenges for pathogen eradication and the concept of biosecurity.
4. Critically evaluate the Concept of "One Health" that unites human and veterinary medicine in control of zoonotic and emerging infections.

Prerequisite: None

Duration: 3 hours/week; 30 contact hours

**Continuous assessment/
examination ratio:**

Continuous in course assessment: 100%

**Examination method/
duration:**

Students will be given four questions to respond to in essay format.

Remarks:

Also offered to RPg from other Faculties at HKU.