



MMPH6206 Emerging Infectious Diseases and "One Health" (Semester 2)

Coordinator: Prof. JSM Peiris/ Dr H Yen

Course Description:

Emerging infectious diseases continue to pose major threats to global public health, SARS, MERS, pandemic influenza, Ebola and Zika being recent examples. Many of these emerge through inter-species transmission from animals. The factors that contribute to emergence of such diseases and of other zoonotic diseases include environmental, ecological, societal, microbial and host factors. A "One Health" approach that envisions an integrated approach to enhancing the health of humans, animals and the environment is a paradigm relevant to responding emerging infections. This interactive course is designed for postgraduate students who are interested in understanding the factors that contribute to infectious disease emergence, their prevention, and control.

Prerequisite: None

Term 2 (Thursday)

Contact person: Dr. Bedru Mohammed

Date	Time	Topic	Lecturer	Format	Venue
12 Jan 2023	6:30 – 9:00 pm	1. Emerging infectious diseases and the One Health approach	Prof. JSM Peiris	Lecture	HKJC-S1A & B
19 Jan 2023	6:30 – 9:00 pm	2. Outbreak investigations	Dr. H-L Yen	Lecture	HKJC-S1A & B
02 Feb 2023	6:30 – 9:00 pm	3. From SARS to MERS and SARS-CoV-2	Prof. JSM Peiris	Lecture/ Discussion	HKJC-S1A & B
09 Feb 2023	6:30 – 9:00 pm	4. Pandemic and zoonotic influenza	Dr. H-L Yen	Lecture/ Discussion	HKJC-S1A & B
16 Feb 2023	6:30 – 9:00 pm	5. Vector-borne diseases	Prof. JSM Peiris	Lecture/ Discussion	HKJC-S1A & B
23 Feb 2023	6:30 – 9:00 pm	6. Hendra and Nipah viruses, emerging threats?	Prof. LLM Poon	Lecture/ Discussion	3SR-SR2 3SR-SR3
02 Mar 2023	6:30 – 9:00 pm	7. Food Safety and One Health	Dr. H-L Yen	Lecture/ Discussion	3SR-SR2 3SR-SR3
09 Mar 2023	6:30 – 9:00 pm	8. Ebola and other viral hemorrhagic fevers	Prof. JSM Peiris	Lecture/ Discussion	HKJC-S1A & B
23 Mar 2023	6:30 – 9:00 pm	9. Disease eradication	Dr. H-L Yen	Lecture/ Discussion	HKJC-S1A & B
30 Mar 2023	6:30 – 9:00 pm	10. Interspecies transmission: crossing the species barrier	Dr. H-L Yen	Lecture	HKJC-S1A & B
06 Apr 2023	6:30 – 9:00 pm	11. A case study of an emerging infectious disease outbreak (Part 1)	Prof. JSM Peiris/ Dr. H-L Yen	Discussion	HKJC-S1A & B
13 Apr 2023	6:30 – 8:30 pm	12. A case study of an emerging infectious disease outbreak (Part 2)	Prof. JSM Peiris/ Dr. H-L Yen	Discussion	HKJC-S1A & B
20 Apr 2023	6:30 – 8:30 pm	13. Class test	-	-	SR4

Course Assessment: Continuous in course assessment (100%), including in course discussions 35% (15% from pre-discussion MCQ and 20% from discussions), case study Part 1 (10%), case study Part 2 (10%), and class test (45%).

- Recommended readings:**
1. LA Beltz, (2011) Emerging Infectious Diseases. John Wiley & Sons Ltd.
 2. DM Morens and AS Fauci, (2020) Emerging Pandemic Diseases: How We Got to COVID-19. Cell 182:1077-1092.
 3. ND Grubaugh, JT Ladner, P Lemey, OG Pybus, A Rambaut, EC Holmes, KG Andersen, (2019) Tracking virus outbreaks in the twenty-first century. Nat Microbiol 4:10-19.
 4. RM Atlas and S Maloy, (2014) One health : people, animals, and the environment. ASM Press.
 5. Nature Medicine 2004: Supplement Vol 10; No 12 (December); ppS69-S140
 6. The World Bank. (2010) People, Pathogen and Our Planet. Volume 1: Towards a One Health Approach for Controlling Zoonotic Diseases. Report No. 50833-GLB. (http://siteresources.worldbank.org/INTARD/Resources/PPP_Web.pdf)
 7. The World Bank. (2012) People, Pathogen and Our Planet. Volume 2: The Economics of One Health.



Report No. 69145-GLB. (<http://www->

[wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/06/12/000333038_20120612014653/Rendered/PDF/691450ESW0whit0D0ESW120PPPvol120web.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/06/12/000333038_20120612014653/Rendered/PDF/691450ESW0whit0D0ESW120PPPvol120web.pdf))

8. Rabinowitz P, Conti L. (2013) Links among human health, animal health, and ecosystem health. The Annual Review of Public Health 34:189-204.
9. van Helden P et al. (2013) One world, one health. EMBO reports 14: 497-501

HKJC-S1A & B: Room G-01 & 02, G/F, The HKJC Bldg for Interdisciplinary Research, 5 Sassoon Road, Pokfulam, HK.
3SR-SR2: Room 401, 4/F, HKUMed Academic Building, 3 Sassoon Road, HK
3SR-SR3: Room 402, 4/F, HKUMed Academic Building, 3 Sassoon Road, HK
SR4: Seminar Room 4, G/F, Laboratory Block, LKS Faculty of Medicine Bldg., 21 Sassoon Road, HK

Contact person: Dr. Bedru Mohammed – email: bedru@hku.hk, Tel: 3917 9886.