

**City University of Hong Kong**  
**Course Syllabus**

**offered by the Department of Infectious Diseases and Public Health**  
**with effect from Semester B 2020/21**

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**Part I Course Overview**

**Course Title:** Introduction to Zoonotic Diseases

**Course Code:** GE2342

**Course Duration:** 1 semester

**Credit Units:** 3 credits

**Level:** B2

Arts and Humanities

Study of Societies, Social and Business Organisations

**Proposed Area:**  
*(for GE courses only)*

Science and Technology

**Medium of Instruction:** English

**Medium of Assessment:** English

**Prerequisites:**  
*(Course Code and Title)* None

**Precursors:**  
*(Course Code and Title)* None

**Equivalent Courses:**  
*(Course Code and Title)* VM 2105 Introduction to zoonoses

**Exclusive Courses:**  
*(Course Code and Title)* None

## Part II Course Details

### 1. Abstract

(A 150-word description about the course)

The overall aim of this course is to provide students with a comprehensive framework to understand the complex ecological and epidemiological relationships between zoonotic infectious agents, their hosts and the environment (One Health). Initially students will be introduced to basic principles of infectious diseases and their dynamics in the individual host and the population. The students will then learn about classic zoonoses including Rabies, Brucellosis, Anthrax and Bovine Tuberculosis, how these have shaped human history and specifically the development of State veterinary services. We will also discuss Avian Influenza with emphasis on local and regional epidemiology. Emerging and re-emerging diseases to be addressed include zoonotic Coronaviruses, Q fever and Henipavirus infections. Vector-borne diseases will cover mosquito-borne pathogens (viral encephalitides, Rift Valley fever etc.), tick-borne pathogens (Lyme disease, Tularemia etc.) or flea-borne pathogens (Typhus, Plague), and will include principles on the relationships between vectors and their vertebrate hosts, such as vectorial capacity. Zoonoses transmitted by animal bites and scratches will also be presented, as well as rodent-borne zoonoses including those caused by Hantaviruses and Leptospirosis. The course will place special emphasis on the multiple factors driving the emergence and transmission of zoonotic diseases. The burden of zoonoses globally, as well as preventive measures (e.g. vaccination), surveillance systems and the concept of disease notification will also be addressed.

### 2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

| No. | CILOs <sup>#</sup>   | Weighting*<br>(if applicable) | Discovery-enriched curriculum related learning outcomes<br>(please tick where appropriate) |    |    |
|-----|--|-------------------------------|--|----|----|
|     |  |                               | A1   | A2 | A3 |
| 1   | Understand the principles of infectious diseases and their dynamics in the host and the population.  |                               | ✓  | ✓  |    |
| 2   | Be able to communicate the epidemiology pathobiology, clinical signs, diagnosis, treatment and prevention of major viral, bacterial and parasitic zoonotic infections to different stakeholders, including veterinarians and clients.                |                               | ✓  | ✓  | ✓  |
| 3   | Be able to recommend diagnostic tests for zoonoses and to interpret results in order to confirm/exclude that infection is present.   |                               | ✓  | ✓  |    |
| 4   | Understand the factors driving the emergence or re-emergence of zoonoses, in order to be able to propose measures to prevent future outbreaks.   |                               | ✓  | ✓  | ✓  |
| 5   | Understand the basic principles of surveillance systems, outbreak investigation and disease notification (OIE). Students will be able to recommend specific surveillance types and plan the steps of an outbreak investigation for a given zoonosis. |                               | ✓  | ✓  | ✓  |
| 6   | Know where and how to access peer-reviewed, reliable and official information on zoonotic diseases, extract and communicate the most important information.  |                               | ✓  | ✓  | ✓  |

\* If weighting is assigned to CILOs, they should add up to 100%.

<sup>#</sup> Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### 3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

| TLA                         | Brief Description   | CILO No. |   |   |   |   |   | Hours/week<br>(if applicable) |
|-----------------------------|---|----------|---|---|---|---|---|-------------------------------|
|                             |   | 1        | 2 | 3 | 4 | 5 | 6 |                               |
| Lectures                    | Conceptual overview of zoonoses, with examples of specific diseases.  | ✓        | ✓ | ✓ | ✓ | ✓ |   | 2 hr/wk                       |
| Tutorials and presentations | Group discussion and presentation about different zoonoses and the factors influencing their emergence (whenever applicable) and spread | ✓        | ✓ | ✓ | ✓ | ✓ | ✓ | 1 hr/wk                       |

### 4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

| Assessment Tasks/Activities                | CILO No. |   |   |   |   |   | Weighting* | Remarks                        |
|--|----------|---|---|---|---|---|------------|--------------------------------|
|  | 1        | 2 | 3 | 4 | 5 | 6 |            |                                |
| Continuous/intermediate Assessments: 50%   |          |   |   |   |   |   |            |                                |
| Group presentations on a specific zoonosis | ✓        | ✓ | ✓ | ✓ | ✓ | ✓ | 20%        | Questions with various formats |
| Midterm test                               | ✓        | ✓ | ✓ | ✓ | ✓ |   | 30%        |                                |
| Examination: 50%<br>(duration: 2 hours)    | ✓        | ✓ | ✓ | ✓ | ✓ |   | 50%        |                                |
| * The weightings should add up to 100%.    |          |   |   |   |   |   | 100%       |                                |

## 5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.) The grading of the student's achievements is based on the following rubrics. For students from other academic units taking courses offered by the JCC-VMLS, those students will not be given grades C- or D as there are no such grades in the courses. In accordance with the requirements of the accrediting authority, the "Marginal" grade of D is not used for veterinary students; the minimum passing grade is "C".

| Assessment Task                              | Criterion  | Excellent<br>(A+, A, A-)   | Good<br>(B+, B, B-)  | Fair<br>(C+, C)   | Failure<br>(F)   |
|--|--|--|--|---|--|
| 1. Group presentation on a specific zoonosis | Able to prepare and present an in-depth presentation highlighting the special characteristics of a particular group of zoonoses with regards to its epidemiology, pathobiology, prevention and control | Displays high competency in developing a presentation and able to elucidate the significant attributes of a specific group of zoonoses | Displays good competency in developing a presentation and able to elucidate the significant attributes of a specific group of zoonoses | Displays competency in developing a presentation and able to elucidate the significant attributes of a specific group of zoonoses | Lacks competency in developing a presentation and unable to elucidate the significant attributes of a specific group of zoonoses |
| 2. Midterm and Final Exam                    | Able to demonstrate knowledge and understanding of the epidemiology of zoonoses, recognise potential signs and take appropriate action, including notifying local and international authorities        | Students achieve a 86% or greater on the examinations  | Students achieve an 65% or greater on the examinations   | Students achieve a 50% or greater on the examinations   | Students achieve less than 50% on the examinations   |

**Conversion table from percentage mark to letter grade for GEXXXX**

| <i>Letter Grade</i> | <i>Mark Range</i> |  | <i>Letter Grade</i> | <i>Mark Range</i> |
|---------------------|-------------------|--|---------------------|-------------------|
| <i>A+</i>           | $\geq 96\%$       |  | <i>C+</i>           | $\geq 58-64\%$    |
| <i>A</i>            | $\geq 91-95\%$    |  | <i>C</i>            | $\geq 50-57\%$    |
| <i>A-</i>           | $\geq 86-90\%$    |  | <i>F</i>            | $\leq 49\%$       |
| <i>B+</i>           | $\geq 79-85\%$    |  |                     |                   |
| <i>B</i>            | $\geq 72-78\%$    |  |                     |                   |
| <i>B-</i>           | $\geq 65-71\%$    |  |                     |                   |

**Part III Other Information** (more details can be provided separately in the teaching plan)

**1. Keyword Syllabus**

*(An indication of the key topics of the course.)*

Zoonoses, emerging diseases, One Health, vectors, arboviruses.

**2. Reading List**

**2.1 Compulsory Readings**

*(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)*

|    |  |
|----|--|
| 1. | Palmer et al. <i>Zoonoses Oxford Textbook of Zoonoses: Biology, Clinical Practice, and Public Health Control</i> |
| 2. | Selected articles will be provided during the course   |

**2.2 Additional Readings**

*(Additional references for students to learn to expand their knowledge about the subject.)*

|    |   |
|----|---|
| 1. | <a href="https://www.who.int/topics/zoonoses/en/">https://www.who.int/topics/zoonoses/en/</a>   |
| 2. | <a href="https://www.ecdc.europa.eu/en/zoonoses">https://www.ecdc.europa.eu/en/zoonoses</a>   |
| 3. | <a href="https://www.chp.gov.hk/en/healthtopics/24/index.html">https://www.chp.gov.hk/en/healthtopics/24/index.html</a>               |
| 4. | <a href="https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html">https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html</a> |

A. Please specify the Gateway Education Programme Intended Learning Outcomes (PILOs) that the course is aligned to and relate them to the CILOs stated in Part II, Section 2 of this form:

| <b>GE PILO</b>  | <b>Please indicate which CILO(s) is/are related to this PILO, if any<br/>(can be more than one CILOs in each PILO)</b> |
|---|--|
| PILO 1: Demonstrate the capacity for self-directed learning   | 6  |
| PILO 2: Explain the basic methodologies and techniques of inquiry of the arts and humanities, social sciences, business, and science and technology | 3, 5, 6  |
| PILO 3: Demonstrate critical thinking skills  | 3, 4, 5, 6   |
| PILO 4: Interpret information and numerical data  | 3, 5, 6  |
| PILO 5: Produce structured, well-organised and fluent text  | 5  |
| PILO 6: Demonstrate effective oral communication skills   | 5, 6   |
| PILO 7: Demonstrate an ability to work effectively in a team  | 5, 6   |
| PILO 8: Recognise important characteristics of their own culture(s) and at least one other culture, and their impact on global issues               | 1, 2, 4  |
| PILO 9: Value ethical and socially responsible actions  | 1, 2, 5  |
| PILO 10: Demonstrate the attitude and/or ability to accomplish discovery and/or innovation  | 5, 6   |

*GE course leaders should cover the mandatory PILOs for the GE area (Area 1: Arts and Humanities; Area 2: Study of Societies, Social and Business Organisations; Area 3: Science and Technology) for which they have classified their course; for quality assurance purposes, they are advised to carefully consider if it is beneficial to claim any coverage of additional PILOs. General advice would be to restrict PILOs to only the essential ones. (Please refer to the curricular mapping of GE programme: [http://www.cityu.edu.hk/edge/ge/faculty/curricular\\_mapping.htm](http://www.cityu.edu.hk/edge/ge/faculty/curricular_mapping.htm).)*

B. Please select an assessment task for collecting evidence of student achievement for quality assurance purposes. Please retain at least one sample of student achievement across a period of three years.

| <b>Selected Assessment Task</b>   |
|---|
| <p>Students will be asked to do a literature search (peer-reviewed and grey) and produce a presentation on a specific, randomly assigned zoonosis that is not covered during the course. Through this exercise, the students will demonstrate their ability to find reliable and up-to-date information on zoonoses, extract and present the most important information in a clear and stimulating way to the audience.</p> |