

# GE2342: INTRODUCTION TO ZOOBOTIC DISEASES

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## Effective Term

Semester B 2023/24

## Part I Course Overview

### Course Title

Introduction to Zoonotic Diseases

### Subject Code

GE - Gateway Education

### Course Number

2342

### Academic Unit

Infectious Diseases and Public Health (PH)

### College/School

Jockey Club College of Veterinary Medicine and Life Sciences (VM)

### Course Duration

One Semester

### Credit Units

3

### Level

B1, B2, B3, B4 - Bachelor's Degree

### GE Area (Primary)

Area 3 - Science and Technology

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Completion of Year 1 courses with C grade or above (for Bachelor of Veterinary Medicine students)

### Precursors

None

### Equivalent Courses

VM 2105 Introduction to zoonoses

### Exclusive Courses

None

## Part II Course Details

### Abstract

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.

### Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Understand the principles of infectious diseases and their dynamics in the host and the population.		x	x	
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.		x	x	x
3	Be able to recommend diagnostic tests for zoonoses and to interpret results in order to confirm/exclude that infection is present.		x	x	
4	Understand the factors driving the emergence or re-emergence of zoonoses, in order to be able to propose measures to prevent future outbreaks.		x	x	x
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.		x	x	x
6	Know where and how to access peer-reviewed, reliable and official information on zoonotic diseases, extract and communicate the most important information.		x	x	x

#### 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 real-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.

### Teaching and Learning Activities (TLAs)

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

### Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Group presentations on a specific zoonosis	1, 2, 3, 4, 5, 6	20	
2	Midterm test	1, 2, 3, 4, 5	30	Questions with various formats

### Continuous Assessment (%)

50

### Examination (%)

50

### Examination Duration (Hours)

2

### Assessment Rubrics (AR)

#### Assessment Task

1. Group presentation on a specific zoonosis

#### Criterion

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

#### Excellent (A+, A, A-)

Displays high competency in developing a presentation and able to elucidate the significant attributes of a specific group of zoonoses

#### Good (B+, B, B-)

Displays good competency in developing a presentation and able to elucidate the significant attributes of a specific group of zoonoses

**Fair (C+, C, C-)**

Displays competency in developing a presentation and able to elucidate the significant attributes of a specific group of zoonoses

**Failure (F)**

Lacks competency in developing a presentation and unable to elucidate the significant attributes of a specific group of zoonoses

**Assessment Task**

2. Midterm and Final Exam

**Criterion**

Able to demonstrate knowledge and understanding of the epidemiology of zoonoses, recognise potential signs and take appropriate action, including notifying local and international authorities

**Excellent (A+, A, A-)**

Excellent in understanding, explaining and integrating the knowledge

**Good (B+, B, B-)**

Good in understanding, explaining and integrating the knowledge

**Fair (C+, C, C-)**

Basic competence in understanding, explaining and integrating the knowledge

**Failure (F)**

Poor in understanding, explaining and integrating the knowledge

**Additional Information for AR**

**Mark Range**

The following is the mark range for each letter grade that must be used for assessment of any examinations or coursework of BVM courses (VM- and GE-coded) offered by PH and VCS.

Letter Grade	Mark Range	Letter Grade	Mark Range
A+	≥85%	C+	55-59.99%
A	80-84.99%	C	50-54.99%
A-	75-79.99%	F	<50%
B+	70-74.99%		
B	65-69.99%		
B-	60-64.99%		

## Part III Other Information

**Keyword Syllabus**

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

**Reading List**

**Compulsory Readings**

Title	
1	Palmer et al. Zoonoses Oxford Textbook of Zoonoses: Biology, Clinical Practice, and Public Health Control
2	Selected articles will be provided during the course

### Additional Readings

Title	
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>

## Annex (for GE courses only)

**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:**

Please indicate which CILO(s) is/are related to this PILO, if any (can be more than one CILOs in each PILO)

**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

**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.**

**Selected Assessment Task**

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.