City University of Hong Kong
Course Syllabus

offered by Department of Infectious Diseases and Public Health
with effect from Semester B 2022/23

Part I **Course Overview**

Course Title:	Infectious Disease Epidemiology
Course Code:	PH6202
Course Duration:	One semester
Credit Units:	3 credits
Level:	P6
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	Nil
Exclusive Courses: *(Course Code and Title)*	Nil

Part II   Course Details

1.   Abstract
(A 150-word description about the course)

The emergence of infectious diseases affecting animals and humans is one of the most important and increasing threats for modern society, and that increase is strongly associated with economic development, globalisation and urbanisation. This course aims to provide postgraduate students with an introduction to the principles of infectious disease epidemiology, spatial analysis and mathematical modelling of infectious diseases.

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	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Demonstrate an understanding of the key epidemiological concepts associated with the spread of infectious diseases		✓	✓	
2.	Develop simple mathematical models of infectious disease spread		✓	✓	✓
3.	Perform descriptive and exploratory spatial analyses of infectious disease occurrence		✓	✓	✓
If weighting is assigned to CILOs, they should add up to 100%.		100%			

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 (if applicable)
		1	2	3	4	
Lectures	Lectures will provide fundamental concepts and principles of infectious disease epidemiology, mathematical modelling and spatial analysis	✓	✓	✓	✓	
Hands-on practical tasks	Hands-on problem-based group activities will be conducted to facilitate conceptual understanding. These will be combined with take-home assignments.		✓	✓	✓	
Take-home assignments and reports	Students will be provided with take home assignments in conjunction with the in-class practical projects.		✓	✓	✓	Out of classroom

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		
Continuous Assessment: 70%						
Classroom assessment	✓	✓	✓	✓	10%	This assessment will be based on the student's class participation
Assignments and reports		✓	✓	✓	45%	Tasks are designed to evaluate the understanding of different concepts learned in this course and the ability of applying them to realistic veterinary infectious disease problems.
Group Presentation		✓	✓	✓	15%	The tasks are designed to evaluate the students' ability to understand relevant research papers on infectious disease epidemiology.
Examination (duration: 1.5 hours)	✓	✓	✓	✓	30%	This will cover all topics covered during the course.
Examination: 30% (duration: 1.5 hours)						

* 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.)

<u>Applicable to students admitted in Semester A 2022/23 and thereafter</u>

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Classroom assessment	The comprehension of the contents in both the theoretical and practical parts.	High	Significant	Basic	Not reaching basic levels
2. Assignments	The ability to apply the techniques/tools learned/recommended in this course.	High	Significant	Basic	Not reaching basic levels
3. Group Presentation	The ability to understand relevant research papers on infectious disease epidemiology.	High	Significant	Basic	Not reaching basic levels
4. Examination	The comprehension of the principles of infectious disease epidemiology	High	Significant	Basic	Not reaching basic levels

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.)

     Epidemiology;   dynamic   disease   modelling;   mathematical   modelling;   infectious   disease
     epidemiology; descriptive spatial analysis; exploratory spatial analysis

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.	Pfeiffer,D.U. (2010): Ch. 1 Introduction and Ch. 2 General epidemiological concepts. In Pfeiffer, D.U.: Introduction to Veterinary Epidemiology. Wiley-Blackwell. 13-32. (out of print but copyright has been returned to the author and the text is therefore now available for free download **here**) https://www.researchgate.net/publication/305279557_Introduction_to_Veterinary_Epidemiology?channel=doi&linkId=5786613d08aef321de2c66c6&showFulltext=true Or https://ebookcentral.proquest.com/lib/cityuhk/detail.action?docID=707905
2.	Dohoo, W. Martin and H. Stryhn (2012): Introduction and causal concepts. Chapter 1. In I.R. Dohoo, W. Martin and H. Stryhn (eds): Methods in epidemiologic research. AVC Inc., Charlottetown, Prince Edward Island, Canada. 1-34 (PDF file can be downloaded from https://projects.upei.ca/mer/)
3.	Medley,G. and Dohoo,I. (2012): Concepts of infectious disease epidemiology. Chapter 25. In I.R. Dohoo, W. Martin and H. Stryhn (eds): Methods in epidemiologic research. AVC Inc., Charlottetown, Prince Edward Island, Canada. 753-778 (PDF file can be downloaded from https://projects.upei.ca/mer/)
4.	Sanchez,J. (2012): Analysis of spatial data. Introduction and visualization. Chapter 25. In I.R. Dohoo, W. Martin and H. Stryhn (eds): Methods in epidemiologic research. AVC Inc., Charlottetown, Prince Edward Island, Canada. 701-716 (PDF file can be downloaded from https://projects.upei.ca/mer/)
5.	Pfeiffer,D.U. (2012): Analysis of spatial data. Chapter 26. In I.R. Dohoo, W. Martin and H. Stryhn (eds): Methods in epidemiologic research. AVC Inc., Charlottetown, Prince Edward Island, Canada. 717-752 (PDF file can be downloaded from https://projects.upei.ca/mer/)

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

1.	Pfeiffer,D.U. (2010): Introduction to Veterinary Epidemiology. Wiley-Blackwell. 132pp. (out of print but copyright has been returned to the author and the text is therefore now available for free download **here**) https://www.researchgate.net/publication/305279557_Introduction_to_Veterinary_Epidemiology?channel=doi&linkId=5786613d08aef321de2c66c6&showFulltext=true Or https://ebookcentral.proquest.com/lib/cityuhk/detail.action?docID=707905
2.	Pfeiffer,D.U., Robinson,T.P., Stevenson,M., Stevens,K.B., Clements,A.C.A. and Rogers,D. (2008): Chapters 1 to 3 in Spatial analysis in epidemiology. Oxford University Press, Oxford, UK, 208pp. (http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780198509882.001.0001/acprof-9780198509882)