City University of Hong Kong
Course Syllabus

offered by Department of Infectious Diseases and Public Health
with effect from Semester A 2024/2025

Part I Course Overview

Course Title:	Fundamentals of Epidemiology in Public Health
Course Code:	PH5106
Course Duration:	1 semester
Credit Units:	3 credits
Level:	P5
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

Epidemiology is the study of the distribution (frequency, patterns in time and space) and determinants (causes, risk/protective factors) of health-related states and events (e.g., diseases) in specified populations. Epidemiology provides public health scientists and researchers with tools and methods to investigate the outbreak and spread of diseases in populations from different perspectives. Epidemiological principles guide the public health decision-makers through the risk management process, how to effectively prevent from, control, and eventually eliminate diseases. In epidemiology, the patient is the community, and individuals are viewed collectively. We study epidemiology using a "One Health" approach, which focuses on the health of animals and humans within a common environment. A reasonable level of understanding of epidemiological concepts and methods is necessary for all public health sector workers, researchers, and policymakers. This course is intended to introduce key One Health and epidemiological concepts and research methods to enable graduate students to develop well-designed public health studies, critically appraise the relevant literature, quantify health-related events in populations, measure associations, evaluate diagnostic tools, and investigate diseases effectively.

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.	Explain the key epidemiological concepts pertaining to public health		✓	✓	
2.	Develop well-designed research studies to answer health-related questions		✓	✓	
3.	Appraise critically the scientific evidence about health and diseases		✓	✓	✓
4.	Evaluate the performance of the screening and diagnostic tools used in public health investigations		✓	✓	✓
		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 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.

3. Learning and Teaching Activities (LTAs)

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

LTA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4			
Lectures	Students will engage in lectures, providing the fundamental concepts and methods in epidemiology, causality, study design, sampling populations, measuring diseases and associations, critical appraisal of public health literature, screening and diagnostic tools evaluation, analysing and interpreting health/disease data	✓	✓					2 hrs per week
Hands-on practical tasks (tutorials)	Students will take on hands-on, problem-based exercises to facilitate their conceptual understanding and explaining of the topics		✓	✓	✓			1 hr per week

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: 50%								
Classroom assessment	✓	✓	✓	✓			10%	This assessment will be based on the student's active class participation.
Midterm examination	✓	✓		✓			40%	This will include all topics covered by the end of Week 6.
Examination: 50% (duration: 2 hours)								
							100%	

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Classroom assessment	Students will engage in in the class discussions and hands-on exercises	High	Significant	Moderate	Basic	Not reaching basic levels
2. Midterm examination	Students will be tested on their comprehension of the concepts and topics taught in the classes (end of Week 6), and their ability to communicate that in the written format	High	Significant	Moderate	Basic	Not reaching basic levels
3. Final examination	Students will be tested on their comprehension of the concepts and topics taught in the classes (from Week 7 to the end), and their ability to communicate that in the written format	High	Significant	Moderate	Basic	Not reaching basic levels

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Classroom assessment	The participation of students in the classes and hands-on exercises	Participation in >90% of the classes	Participation in 85-90% of the classes	Participation in 70-85% of the classes	Limited participation in classes (<70%)
2. Midterm examination	The comprehension of the concepts and topics taught in the classes (end of Week 6), and the ability to communicate that in the written format	Students achieve ⩾ 86% of the mark in the examination	Students achieve ⩾ 70 and < 86 of the mark in the examination	Students achieve ⩾ 50 and < 70 of the mark in the examination (C letter grade is at least 50% or greater)	Students achieve <50% of the mark in the examination
3. Final examination	The comprehension of the concepts and topics taught in	Students achieve ≥ 86% of the mark in the	Students achieve ⩾ 70 and < 86 of the mark in	Students achieve ⩾ 50 and < 70 of the mark in	Students achieve <50% of the mark in

	the classes (from Week 7 to the end), and the ability to communicate that in the written format	examination	the examination	the examination (C letter grade is at least 50% or greater)	the examination

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; One Health; study design; screening and diagnostic tests;; measures of association, causality; bias; data 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.	Dohoo, Ian Robert, S. Wayne Martin, and Henrik Stryhn. 2012. Methods in Epidemiologic Research. Charlottetown, P.E.I.: VER, Inc. https://projects.upei.ca/mer/
2.	Susan Carr, Nigel Unwin, and Tanja Pless-Mulloli. 2007. An Introduction to Public Health and Epidemiology. Second Edition. Open University Press. https://pestcontrol.ru/assets/files/biblioteka/file/20-susan_carr_nigel_unwin_tanja_pless-mulloli-an_introduction_to_public_health_and_epidemiology_2007.pdf

2.2 Additional Readings

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

1.	Ann Aschengrau and George R. Seage. 2018. Essentials of Epidemiology in Public Health, Fourth Edition. Jones & Bartlett Learning. ISBN 128417610X, 9781284176100.
2.	The STROBE statement: https://www.strobe-statement.org/index.php?id=strobe-home
3.	The CONSORT statement: http://www.consort-statement.org/consort-2010
4.	https://epitools.ausvet.com.au/