

City University of Hong Kong
Course Syllabus

offered by Department of Infectious Diseases and Public Health
with effect from Summer Term 2024

Part I Course Overview

Course Title: Public Health Surveillance

Course Code: PH6204

Course Duration: 1 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

This course introduces students to Public Health Surveillance, a fundamental public health function that is crucial for comprehending and monitoring population health. This course examines the theory, data collection methods, data analysis methodologies, and presentation strategies of the systematic, continuous study and interpretation of population health data to inform planning, implementation, and assessment of public health practice. Students identify the various types of surveillance and their respective applications in a variety of scenarios. During practical experiences/laboratories, data gathering tools are designed and their practical applications are examined. Real-world surveillance data are used to illustrate methods for analysis and how to convey surveillance data to various audiences. Guests who coordinate and perform monitoring in various communal contexts facilitate interactive discussions.

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 critical understanding of public health surveillance concepts and systems.		✓	✓	
2.	Apply analytical skills to interpret and evaluate surveillance data.		✓	✓	✓
3.	Collaborate effectively in a team to investigate and present public health surveillance topics.		✓	✓	✓
4.	Conduct a comprehensive analysis of a public health surveillance issue and communicate findings clearly.		✓	✓	✓
		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 public health surveillance, survey methods, design of public health surveillance systems, and analysis of surveillance data & real word data	✓	✓	✓	✓	
Field-Based Learning	Field-based learning at the Hong Kong Museum of Medical Sciences and the Legislative Council offers students practical knowledge and firsthand experience. The museum showcases the historical development of medical sciences, allowing students to explore medical advancements and public health initiatives. Visiting the Legislative Council provides students with an opportunity to engage in discussions with council members about public health-related legislation. They can gain insights into the decision-making process. These experiences deepen students' understanding of healthcare challenges and policy formulation, enhancing their skills and preparing them for future endeavors in healthcare or public policy.	✓	✓	✓	✓	
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 assignment	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: <u>100%</u>						
Case Discussion Participation	✓	✓	✓	✓	20%	To achieve ILO 1-2 by engaging students in critical analysis and discussion of real-world public health surveillance cases. Description: Students will participate in case discussions, actively engaging with peers and the instructor to discuss and analyze assigned cases.
Take home assignment		✓	✓	✓	30%	To achieve ILO 1-2 by assessing students' ability to apply analytical skills to public health surveillance data. Description: Three assignments will be given throughout the course, requiring students to analyze data, interpret results, and propose improvements.
Group Presentation	✓	✓	✓	✓	20%	To achieve ILO 1-4 by evaluating students' ability to work collaboratively and present public health surveillance topics. Description: Students will be divided into groups to research a specific public health surveillance topic, prepare a presentation, and present their findings to the class.
Final Report	✓	✓	✓	✓	30%	To achieve ILO 1-4 by assessing students' ability to conduct a detailed analysis of a public health surveillance issue and communicate their findings. Description: Students will select a public health surveillance issue for in-depth investigation. The final report will include an introduction, methodology, results, discussion, and recommendations.
					100%	

5. Assessment Rubrics

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

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Case Discussion Participation	<p>Engagement: Regular and meaningful participation in discussions.</p> <p>Quality of Contributions: Relevance, depth, and insightfulness of comments.</p> <p>Collaboration: Constructive interaction with peers, respecting diverse perspectives.</p>	High	Significant	Moderate	Not reaching marginal levels
2. Take home assignment	<p>Accuracy: Correct application of surveillance concepts and methods.</p> <p>Clarity: Clear and concise presentation of findings.</p> <p>Critical Analysis: Identification of issues, proposal of solutions, and justification of recommendations.</p>	High	Significant	Moderate	Not reaching marginal levels
3. Group Presentation	<p>Content: Comprehensive and accurate coverage of the topic.</p> <p>Organization: Logical flow and structure of the presentation.</p> <p>Delivery: Clarity, confidence, and engagement of presenters.</p> <p>Teamwork: Effective coordination and contribution from all group members.</p>	High	Significant	Moderate	Not reaching marginal levels
4. Final Report	<p>Introduction: Clear statement of the issue's significance.</p> <p>Methodology: Detailed and appropriate description of methods used.</p>	High	Significant	Moderate	Not reaching marginal levels

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
	<p>Results: Accurate and thorough presentation of findings.</p> <p>Discussion: Insightful analysis of results, including limitations and implications.</p> <p>Recommendations: Practical, evidence-based suggestions for improvement.</p> <p>Writing Quality: Clear, concise, and well-organized writing.</p>				

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; Infectious diseases surveillance; Sero-surveillance; Behavioural surveillance; Real world data

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	Lee L. Principles & practice of public health surveillance. Oxford: Oxford University Press; 2010.
2	Choi B. The Past, Present, and Future of Public Health Surveillance. Scientifica. 2012;2012:1-26.

2.2 Additional Readings

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

1	Leung K, Wu J, Leung G. Real-time tracking and prediction of COVID-19 infection using digital proxies of population mobility and mixing. Nature Communications. 2021;12(1).
2	Ibrahim N. Epidemiologic surveillance for controlling Covid-19 pandemic: types, challenges and implications. Journal of Infection and Public Health. 2020;13(11):1630-1638.
3	Goodman L, Whittaker G. Public health surveillance of infectious diseases: beyond point mutations. The Lancet Microbe. 2021;2(2):e53-e54.
4	Brownstein J, Freifeld C, Madoff L. Digital Disease Detection — Harnessing the Web for Public Health Surveillance. New England Journal of Medicine. 2009;360(21):2153-2157.