

## **REGULATIONS FOR THE POSTGRADUATE DIPLOMA IN PUBLIC HEALTH (PDipPH)**

*(See also General Regulations)*

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### **M97 Admission requirements**

To be eligible for admission to the programme leading to the Postgraduate Diploma in Public Health, a candidate shall:

- (a) comply with the General Regulations;
  - (b) hold a Bachelor's degree with honours or the degrees of MBBS of this University, or another qualification of equivalent standard from this University or from another University or comparable institution accepted for this purpose; and
  - (c) satisfy the examiners in a qualifying examination, if required.
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### **M98 Qualifying examination**

- (a) A qualifying examination may be set to test the candidate's formal academic ability or his/her ability to follow the courses of study prescribed. It shall consist of one or more written papers or their equivalent and may include a project report.
  - (b) A candidate who is required to satisfy the examiners in a qualifying examination shall not be permitted to register until he or she has satisfied the examiners in the examination.
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### **M99 Award of diploma**

To be eligible for the award of the Postgraduate Diploma in Public Health, a candidate shall:

- (a) comply with the General Regulations; and
- (b) complete the curriculum and satisfy the examiners in accordance with the regulations set out below.

A candidate may choose to exit the programme after having successfully completed a minimum of 100 hours of the coursework and be considered for the award of a Postgraduate Certificate in Public Health.

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### **M100 Length of curriculum**

The curriculum shall normally extend over one academic year of full-time study or two academic years of part-time study, with a minimum of 200 hours of prescribed work.

Holders of the Postgraduate Diploma in Public Health may apply for admission to the Master of Public Health programme after a break of at least one year and not more than five years from graduating from the PDipPH programme.

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### **M101 Completion of curriculum**

To complete the curriculum, a candidate shall:

- (a) follow courses of instruction as prescribed in the syllabus and complete satisfactorily all required written, practical and/or clinical work; and
- (b) satisfy the examiners in the modules by continuous assessments and/or written examinations.

A candidate who fails to fulfil the requirements within the prescribed maximum period of study shall be recommended for discontinuation under the provision of General Regulation G12, except that a candidate who is unable because of illness or circumstances beyond his/her control to complete the requirements within the prescribed maximum period of study, may apply to the Board of Studies for permission to extend his/her period of study.

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### **M102 Module selection**

Selection of modules shall be made within the curriculum structure delineated for each concentration, in consultation with the taught course co-ordinator and subject to the approval of the Board of Studies.

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### **M103 Examinations**

- (a) A candidate who has failed to satisfy the examiners in a module may be permitted:
    - (i) to attend a supplementary examination; or
    - (ii) to re-take the concentration module and the prescribed examination(s); or
    - (iii) to enrol in another module in lieu.
  - (b) A candidate who is not permitted to present himself/herself for re-examination in any module(s) in which he/she has failed to satisfy the examiners shall be recommended for discontinuation of studies under General Regulation G12.
  - (c) A candidate who has failed to satisfy the examiners in a second attempt in the module(s) shall be recommended for discontinuation of studies under the provisions of General Regulation G12.
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### **M104 Examination results**

At the conclusion of the examination a pass list shall be published. A distinction may be awarded to candidate who has demonstrated outstanding performance in the programme.

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## SYLLABUSES FOR THE POSTGRADUATE DIPLOMA IN PUBLIC HEALTH (PDipPH)

Candidates are required to choose one of the four **Areas of Concentration**:

- a) Public Health Practice (PHP)
- b) Epidemiology and Biostatistics (EB)
- c) Infectious Diseases (ID)
- d) Health Economics, Policy and Management (HEPM)

All candidates must enrol in the **3** core modules and choose **7** modules from the concentration modules listed below:

CMED6100	Introduction to biostatistics
CMED6200	Introduction to epidemiology
CMED6201	Principles of public health

### Concentration 1: Public Health Practice (PHP)

Public Health Practice (PHP) concentration modules	
CMED6104	Emerging infectious diseases: the “One Health” concept
CMED6913	Environmental health assessments
CMED6912	Environmental health hazards and interventions
CMED6204	Health and society
CMED6219	Health communication
CMED6902	Health economics for public health
CMED6900	Health policy and politics
CMED6206	Health promotion and health education
CMED6218	Human health: futures in a globalized world
CMED6216	Introduction to public health genomics
CMED6224	Practicum
CMED6704	Psychosocial issues in health and illness
CMED6217	Qualitative health research
CMED6208	Risk: perception, decisions and communication
CMED6202	The practice of public health

### Concentration 2: Epidemiology and Biostatistics (EB)

Epidemiology and Biostatistics (EB) concentration modules	
CMED6401	Advanced clinical epidemiology and decision analysis
CMED6030	Advanced epidemiological methods
CMED6050	Advanced epidemiological methods II
CMED6020	Advanced statistical methods I
CMED6040	Advanced statistical methods II
CMED6400	Evidence-based practice: an introduction to clinical epidemiology and decision analysis
CMED6211	Infectious disease epidemiology
CMED6203	Measurement in health
CMED6300	Quantitative research methods

### Concentration 3: Infectious Diseases (ID)

Infectious Diseases (ID) concentration modules	
CMED6227	Biological basis of diseases
CMED6104	Emerging infectious diseases: the “One Health” concept
CMED6215	Epidemics
CMED6228	Field epidemiology
CMED6211	Infectious disease epidemiology
CMED6210	Infectious disease modelling
CMED6105	Infectious diseases in public health
CMED6300	Quantitative research methods
CMED6208	Risk: perception, decisions and communication

Candidates registered in this concentration **may** choose the modules listed below which are offered by the HKU-Pasteur Research Pole.

CMED6107	HKU-Pasteur Immunology (equivalent to two modules)
CMED6106	HKU-Pasteur Virology (equivalent to two modules)

Doctors registered in this concentration **may** choose the equivalent of **1** module from the modules listed below which are offered by the Department of Microbiology/ Carol Yu Centre for Infection.

MICR6903	Common problems in infectious diseases (equivalent to 0.5 module)
MICR6904	Infections in immunocompromised hosts (equivalent to 0.5 module)
MICR6905	Infectious disease emergencies (equivalent to 0.5 module)
MICR6901	Infectious disease rounds (equivalent to 0.5 module)

### Concentration 4: Health Economics, Policy and Management (HEPM)

Health Economics, Policy and Management (HEPM) concentration modules	
CMED6401	Advanced clinical epidemiology and decision analysis
CMED6909	Comparative health systems: Hong Kong and the United States
CMED6204	Health and society
CMED6902	Health economics for public health
CMED6220	Health informatics
CMED6900	Health policy and politics
CMED6911	Human resources in healthcare organisations
CMED6907	Perspectives in healthcare management
CMED6916	Practice management for private medical practices
CMED6901	Principles of healthcare management
CMED6221	Public health law and ethics
CMED6915	Public health leadership
CMED6903	Resources for health
CMED6910	Strategic management in healthcare

## MODULE LIST

### **CMED6401 Advanced clinical epidemiology and decision analysis (20 hours)**

**(Pre-requisite: (i) CMED6200 Introduction to epidemiology, (ii) CMED6100 Introduction to biostatistics, and (iii) CMED6400 Evidence-based practice: an introduction to clinical epidemiology and decision analysis)**

This is an intermediate/advanced-level module on methods of clinical epidemiology and decision science. It covers the techniques and growing range of applications of decision analysis and cost effectiveness analysis in healthcare technology assessment, health policy analysis, medical decision making, and health resource allocation. Students will learn to apply methods that are currently used at the frontiers of clinical epidemiology and decision science research in clinical and public health settings. While the primary emphasis is not mathematical theory, a certain amount of theoretical background is presented for each topic.

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### **CMED6030 Advanced epidemiological methods (20 hours)**

**(Pre-requisite: CMED6200 Introduction to epidemiology)**

The overarching conceptual framework for this module centres on the counterfactual definition of a cause, specifically how this definition is incorporated into observational study design, analysis and interpretation of results, and ultimately our ability to make causal inference. This module will consider how directed acyclic graphs, mediation analysis, structural equation modelling, multi-level models and different study designs, including Mendelian randomisation, can be applied to the pursuit of making valid causal inferences in epidemiology. It will also consider sources of bias and their potential impact.

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### **CMED6050 Advanced epidemiological methods II (20 hours)**

**(Pre-requisite: (i) CMED6200 Introduction to epidemiology and (ii) CMED6030 Advanced epidemiological methods)**

This module will provide an in depth investigation of statistical methods for drawing causal inferences from observational studies. Informal epidemiologic concepts such as confounding, comparability, intermediate variables, total effects, controlled direct effects, natural direct and indirect effects for mediation analysis, and selection bias will be formally defined within the context of a counterfactual causal model. Methods for estimating a total causal effect in the context of a point exposure will be discussed, including regression methods, propensity score techniques and instrumental variable techniques for continuous, discrete or binary outcome. Mediation analysis will be discussed from a counterfactual perspective, which methods for making inferences about the joint effects of time-varying exposures in the presence of time dependent covariates that are simultaneously confounders and intermediate variables will be emphasised. These methods include g-estimation of structural nested models, inverse probability weighted estimators of marginal structural models, and g-computation algorithm estimators. As a practical, students will reanalyse data sets using the above methods.

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### **CMED6020 Advanced statistical methods I (20 hours)**

**(Pre-requisite: CMED6100 Introduction to biostatistics)**

This module will provide a practical overview of commonly used biostatistical methods, building on the basic methods introduced in CMED6100. This module covers transformation of variables, ANOVA, generalised linear models, factor analysis, instrumental variable analysis, and multivariate methods. The software package SPSS will be used. Tutorials will cover the practical application of methods on real datasets.

**CMED6040 Advanced statistical methods II (20 hours)**  
**(Pre-requisite: CMED6100 Introduction to biostatistics; CMED6020 Advanced statistical methods I)**

This module will provide a basic, yet thorough introduction to the probability theory and mathematical statistics that underlie many of the commonly used techniques in public health research. The frequentist and Bayesian approaches to parameter estimation, interval estimation and hypothesis testing will be compared and contrasted. The open-source software package R will be introduced, and used to perform analyses. R also includes a powerful graphics engine which will be used to produce publication-quality figures. All theoretical material will be motivated with problems from epidemiology and public health.

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**CMED6227 Biological basis of diseases (20 hours)**

This module analyses the basic features of cellular functioning at different levels and provides an overview of the recent technological advances that are impacting the healthcare and public reaction to scientific discoveries. Students will learn to assess the importance of acquiring a general understanding of the molecular basis of diseases that represent a major burden for society and the public health system, as a basis for evidence-based responses. Examples will be drawn for non-communicable and communicable diseases.

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**MICR6903 Common problems in infectious diseases (10 hours)**  
**(Pre-requisite: Registered medical doctors)**

The practice of clinical infectious diseases depends on the support and proficiency in four major areas: (1) clinical knowledge and skill including routine laboratory investigations; (2) organ imaging; (3) diagnostic microbiological; and (4) histological examination of tissue biopsies. History, physical examination, and preliminary test would usually lead to the formulation of a clinical diagnosis of a possible infectious process. The clinical symptoms and signs will also provide clues in the localisation of the focus of infection so that relevant clinical specimens are taken for microbiological examinations. This module will review the above issues.

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**CMED6909 Comparative health systems: Hong Kong and the United States (20 hours)**

The major aim of this module is to provide a comparative view of aging, public health, and allopathic, traditional and complementary treatment in Hong Kong and The United States within the perspectives of nursing, medicine, and interdisciplinary collaboration. Classroom experiences are designed – both in the U.S. and in H.K. – to build knowledge of how the U.S. and H.K. compare in demographics and aging; health, disease, and illness; and healthcare treatment from prevention through rehabilitation and palliation. Collaboration between nurses and physicians is emphasised throughout the module, in interaction with the faculty team, in home seminars and clinical observations, and in the seminars and clinical observations in Hong Kong. Clinical experiences include observation in a collaborative practice in the U.S. and in a variety of settings across the SAR of Hong Kong. All of these experiences will be reflected against the student's broader knowledge of the U.S. healthcare system and care delivery settings but do not require specific clinical background to achieve the objective of the module.

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**CMED6104 Emerging infectious diseases: the “One Health” concept (20 hours)**

Most human communicable diseases originally arose from inter-species transmission from animals. There is an emerging consensus that a “One Health” approach that unifies animal and human health is

needed to address future emerging infectious disease threats. The factors that contribute to emergence of such diseases and of other zoonotic diseases include environmental, ecological, societal, microbial and host factors. This module is designed for postgraduate students who are interested in understanding the factors that contribute to infectious disease emergence, prevention, and control.

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**CMED6913 Environmental health assessments (20 hours)**  
**(Pre-requisite: CMED6912 Environmental health hazards and interventions or equivalent)**

This module aims to provide a broad overview of the methods adopted to assess environmental health impacts. It covers measurement and analysis of different types of exposure commonly found in daily activities and also the effect modification of socio-demographic, lifestyle and other environment factors. Students will obtain hands-on experience in analysing environmental and health data using a statistical software.

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**CMED6912 Environmental health hazards and interventions (20 hours)**

This module provides a broad overview of health risks due to various environmental hazards including indoor and outdoor air pollution, water and food contaminants, noise, radiation, environmental disasters, climate changes, urbanisation and toxic organic chemicals. The module also considers issues such as liveability, environmental health policy, environmental justice, risk information and communication. The epidemiological and toxicological effects of environmental pollutants will be considered as will the implication for public health intervention and policy formulation.

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**CMED6215 Epidemics (20 hours)**

Infectious diseases have been an important public health issue since the beginning of human history. With frequently observed emergence and re-emergence of infectious diseases, it is essential to examine previous major disease outbreaks/epidemics in order to inform public health decisions in disease control in the future. This module is designed to provide a platform on which participants can analyse and dissect infectious diseases from historical and contemporary perspectives using an integrated approach to improve their ability to apply public health approaches to prevent and control infectious diseases.

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**CMED6205 Epidemiology of important health conditions (20 hours)**  
**(Suspended)**

Global burden of diseases, epidemiology of cancer, cardiovascular, respiratory, infectious, mental and musculoskeletal diseases, lifestyle factors (smoking, alcohol, diet, exercise, environment, occupation) and health.

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**CMED6400 Evidence-based practice: an introduction to clinical epidemiology and decision analysis (20 hours)**  
**(Pre-requisite: CMED6200 Introduction to epidemiology)**

Information Mastery: A Practical Approach to Evidence-Based Medicine for Clinicians and Managers. Is it True? Evaluating Research about Therapy. Clinical Jazz: Harmonising Clinical Experience and EBM. Don't Panic: Basic Statistics You Can Understand. Using "Medical Poetry": Is it Possible to both Improve Health Care Quality and Reduce Costs? Evaluating "Foraging Tools" for

Keeping Up with New, Relevant, and Valid Information. Is it True? Evaluating Research about Diagnostic Tests. The Case of Baby Jeff. Taking the Right STEPS to Avoid Fallacies of Decision-Making. Is it True? Evaluating Research about Prognosis. Evaluating Conventional Information Sources (Consultants, CME, and Reviews). Is it True? Evaluating Medical Reviews. Is it True? Evaluating Practice Guidelines. The Information Pyramid: Obtaining Useful Information from Secondary Sources. Is the Best Evidence Getting Into Practice: The Case of Type 2 Diabetes. Hints and Tips for Practicing and Teaching EBM via IM. Wrap Up/Clinical Jazz.

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### **CMED6228 Field epidemiology (20 hours)**

The module will start with an introduction to the theory of disease surveillance, outbreak, epidemic, and field investigation, with a review on relevant epidemiological and bio-statistical skills needed for field investigation. Then the operational aspects of field investigation will be covered in details, including the design of study and questionnaire, conduct of field investigation, sampling and data collection, data analysis and interpretation, formulation of recommendations, and risk communication. Field investigations for some special settings will also be considered.

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### **CMED6906 Financial management of healthcare organisation (20 hours)**

**(Pre-requisite: (i) CMED6910 Strategic management in healthcare or (ii) Previous healthcare working experience)**  
**(Suspended)**

This module builds on CMED 6910 Strategic management in healthcare, and introduces the use of financial information to inform strategic decision making, and covers topics such as financing of healthcare services, role of internal/ external audit, role of director of finance, corporate governance, strategic and business planning. This module is designed for students with prior working experience in healthcare industry and requires in-class discussions.

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### **CMED6204 Health and society (20 hours)**

This module provides an overview of the field of the social determinants of health, and will focus on the theories, measurement tools, and analytical methods for investigating the causal influence of social contexts and social variables on population health. By the end of the module, student will be familiar with basic concepts in the field, including the prevention paradox and the two strategies of prevention; the measurement of socio-economic status (SES) and the mechanisms of its association with health outcomes; absolute vs. relative concepts of poverty; compositional vs. contextual influences of neighbourhood environments on health; the measurement of social networks, social support, and social capital, and how each concept is related to health; the demands/control model of job stress; and policies to tackle social inequalities in health.

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### **CMED6219 Health communication (20 hours)**

The module covers the development of public communication campaigns in the field of health promotion. Students will explore how the mass media can be used to promote health; design mass media messages that are consonant with principles of behavioural science and the public health model; and determine a strategic plan for an integrated mass media campaign.

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**CMED6902 Health economics for public health (20 hours)**

This module introduces basic concepts of health economic evaluation and financing and rationing to healthcare professionals. The module emphasises the uses and limitations of the economic approach in healthcare, with applications in medicine, nursing, other clinical areas and health promotion.

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**CMED6220 Health informatics (20 hours)**

**(Pre-requisite: Familiarity or interest in computer systems and networking and clear understanding of healthcare delivery.)**

This module focuses on the history of healthcare informatics, basic informatics concepts and methods, and health information management applications for healthcare administration, practice, education and research will be covered

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**CMED6900 Health policy and politics (20 hours)**

This module begins by introducing the core macroeconomic and political theories needed to understand and assess national or regional health systems. Based on these theoretical considerations and empirical observations from the field, students are led through a survey of system typologies from around the world. The concept of "control knobs" is then deployed to translate theoretical appreciation into real world application. Finally students are given the opportunity to undertake a self-directed simulation exercise on a prevailing policy topic in the Hong Kong or mainland Chinese setting.

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**CMED6206 Health promotion and health education (20 hours)**

This module is organised into two sections. The first section provides students with a broad definition and understanding of health and health promotion at the individual, small group, community, and societal levels and emphasises a critical examination of the socioeconomic, political and environmental influences on health and health promotion. The second section identifies and analyses opportunities for and barriers to promoting health and wellness among individuals and populations through the assessment and evaluation of a variety of approaches and actions that form the basis of a strategic plan for promoting individual and population health.

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**CMED6107 HKU-Pasteur Immunology (40 hours)**

**(Pre-requisite: A Bachelor of Science degree in biology or immunology or equivalent)**

This module provides advanced training to a small, selected number of international students at the Master/MPhil and early PhD level in an interactive classroom setting. It is composed of lectures given by internationally renowned scientists, of workshops/round tables supervised by junior faculty members, and of practical sessions organised together with local and/or invited teams. The Immunology module will focus each year on a different topic, including innate immunity, inflammation, mucosal immunity, vaccination, adaptive immunity. Special emphasis is placed on diseases that represent a threat to public health in this region. Students will work in pairs to stimulate interactions and collegial attitudes and will be able to exchange ideas with worldwide top-level scientists.

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**CMED6106 HKU-Pasteur Virology (40 hours)**  
**(Pre-requisite: A Bachelor of Science degree in biology or immunology or equivalent)**

This module provides training for a small, selected number of international students at the Master/MPhil and early PhD level in an interactive classroom setting. It features lectures given by internationally renowned scientists, workshops/round tables supervised by junior faculty members, and included practical sessions organised together with local and/or invited teams. Each year the module focuses on a different set of viruses/diseases that are relevant for public health in Asia and worldwide. Topics include: epidemiology, molecular and cellular biology of viruses; virus/host molecular interactions; pathogenetic mechanisms, prevention strategies against viral diseases and therapeutical approaches. Students will work in pairs to stimulate interactions and collegial attitudes and will be able to exchange ideas with worldwide top-level scientists.

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**CMED6218 Human health: futures in a globalised world (20 hours)**  
**(Pre-requisite: This module will be uncompromising, and is not for the fantasy-minded or faint hearted. Full participation is expected of all students.)**

This “big picture” module has as its focus the implications of environmental degradation and global warming for the next 25 years. Globalisation, economics, resource depletion, food and agricultural issues, population change and societal reactions, and climatological impacts from current patterns of human population behaviour within an ecological systems-based perspective to infer likely futures and their health implications are explored. In particular, students examine current trends and models to attempt to estimate emerging public health issues and hazards linked to these.

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**CMED6911 Human resources in healthcare organisations (20 hours)**

This module provides an overview of human resource issues in healthcare. Through individual case studies, group assignments and presentations, students will have a basic understanding of human resource principles, how these apply to healthcare organisations and the consequent impact on patient care. Topics covered will include, among others, manpower planning and recruitment, staff motivation and performance, leadership and teamwork.

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**MICR6904 Infections in immunocompromised hosts (10 hours)**  
**(Pre-requisite: Registered medical doctors)**

Infectious disease is as old as the history of mankind. Yet the systematic study of infectious diseases is relatively recent. The importance of the classical contagious and communicable diseases dwindled in the developed world, mainly because of improvements in public health measures. The spectrum of infection in many parts of the world has now been replaced by a predominance of hospital-acquired infections and infection in immunocompromised hosts, a “side effect” of our advances in the management of various diseases like malignancies and autoimmune diseases. In this module, we focus on the approach to infections in patients suffering from an impaired immune system, either as a result of the underlying illness or due to the effects of various therapeutic modalities. Antimicrobial therapy alone often does not completely control the infection or its damages, other means to modulate the immune system are sometimes necessary in order to effect a cure.

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**MICR6905 Infectious disease emergencies (10 hours)**  
**(Pre-requisite: Registered medical doctors)**

Advances in medicine have brought with it an increased expectation from patients. Missing an infectious disease emergency is almost considered a sin because of its generally treatable nature and complete recovery is expected if the correct diagnosis and treatment is given at the early stage. One of the important advances in medical service is the implantation of indwelling medical devices for supplementing functions of vital organs or fulfilling the locomotive functions. However, such therapeutic measures are associated with a significant amount of complication from infection which by itself is life-threatening and at the very least, debilitating. Infectious disease emergencies and indwelling medical device-related infections could present in almost any patient group within any medical specialties.

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**CMED6211 Infectious disease epidemiology (20 hours)**  
**(Pre-requisite: CMED6100 Introduction to biostatistics)**

This module covers the fundamental concepts of infectious disease epidemiology and current methods for infectious disease surveillance and control. Topics include epidemiologic triangle, transmissibility and severity of infectious diseases, outbreak investigations and responses, infectious disease surveillance, vaccination, molecular epidemiology, and epidemic modelling. Special focus on emerging infectious diseases for case studies.

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**CMED6210 Infectious disease modelling (20 hours)**  
**(Pre-requisite: CMED6211 Infectious disease epidemiology)**

This module is an introduction to the use of mathematical models for studying infectious disease dynamics and control. Topics include the basics of epidemic modelling, estimation of transmissibility and disease severity, cost and effectiveness evaluation of different interventions, and optimisation of control strategies under resource constraints (e.g. vaccine prioritisation). There is a special focus on emerging infectious diseases for case studies.

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**MICR6901 Infectious disease rounds (10 hours)**  
**(Pre-requisite: Registered medical doctors)**

The gold standard for the testing of medical knowledge is its predictability of patient outcome at the bedside. Despite the importance of large studies such as randomised controlled trials in the literature, case reports have always played a unique role in education and the initiation of break-through research. This module strives to use an interactive approach in the learning process by case presentation before a literature review. These cases include genitourinary infections, common problems with atypical presentation and rare problems with an unbelievably simple solution.

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**CMED6105 Infectious diseases in public health (20 hours)**

Infectious diseases are of major public health concern. This module focuses on the study of microbiology from a public health point of view. This module covers basic microbiology, common infectious diseases in community and healthcare settings, and provides the biological basis for the methods used for prevention and control of communicable diseases. This module has a strong emphasis on the practical aspects of infectious disease and is important to those who are working or pursue their career in the fields of epidemiological investigations, public health surveillance, and other public health responses that are related to microbial infections.

### **CMED6100 Introduction to biostatistics (20 hours)**

Biostatistics concerns the collection, analysis, interpretation and presentation of biological data. Specific applications include epidemiology, clinical trials and public health. This module covers descriptive statistics and elementary probability, and introduces basic topics in inferential biostatistics, including regression, confidence intervals and hypothesis tests. The module provides students with introductory skills in biostatistics to complete their projects and dissertations; therefore its primary focus is on the practical use and interpretation of statistical methods.

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### **CMED6200 Introduction to epidemiology (20 hours)**

Epidemiology is the study of the occurrence and distribution of illness in a population, the causes and determinants of illnesses and diseases, and the application of this knowledge to control health problems at the community level. This module introduces the basic concepts and approaches used in epidemiologic research, and serves as a prerequisite for several other modules.

The topics covered in this module include (1) Approaches to measuring the occurrence and distribution of illness in populations; (2) Design and interpretation of epidemiologic studies to identify the determinants and causes of illness; (3) Estimation of the impact of control measures at the community-level.

This module is lecture-based and supplemented with optional tutorials to support learning.

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### **CMED6216 Introduction to public health genomics (20 hours)**

Genetics is the study of variation in the genome, its inheritance, and its contribution to health and disease. Public health genetics focuses on the public health implications of advances in genetic and molecular science for preventing disease and for protecting and improving the health of the population. The curriculum will be centred on an understanding how genetic and environmental factors work together in determining disease susceptibility in individuals and populations. The module addresses the implications of these developments for health services, and the ethical, legal, cultural, economic and policy issues involved in applying genomics to public health.

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### **CMED6203 Measurement in health (20 hours)**

Measuring health status is central to health services research and clinical trials; this module examines the basic science of health measurement for health services research and public health. The measures include evaluative instruments, screening tools, clinician rating scales and self-report health indicators.

The module reviews existing measurement methods and discusses the theoretical aspects of health measurement including empirical validity analyses of an existing instrument (but will not actually run such analyses) and the process of developing an instrument where a suitable one does not already exist.

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### **CMED6907 Perspectives in healthcare management (20 hours)**

**(Pre-requisite: (i) CMED6901 Principles of healthcare management and/ or (ii) Previous healthcare work experience)**

The module aims to stimulate concerns about important problems and issues facing health administration at both global and local levels, and to provide a comprehensive look at public health management and administration. Students will explore the characteristics, contemporary issues and

controversies of health administration. Various theories and concepts in administrative science regarding strategic planning, governance and accountability, quality and risk management, human resources management, information management, and leadership will be appraised and applied in the practice of administrative medicine. Students will also compare, contrast and evaluate cases in different health systems (e.g. Hong Kong, US, UK, China), as well as formulate solutions to problems in healthcare administration.

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**CMED6916 Practice management for private medical practices (20 hours)**

**(Pre-requisite: (i) CMED6901 Principles of healthcare management and/ or (ii) Previous healthcare work experience)**

This module seeks to build on students' own experiences and knowledge of healthcare provision and healthcare systems. This is an applied module where students work in small groups to 1) develop a critical understanding of healthcare management problem, 2) develop ideas and proposals about how these might be resolved, and 3) determine the intended and unintended consequences of actions taken by managers. Health provision and healthcare systems are understood both from a population perspective of healthcare provision (including the social determinants of health) as well as the more 'local' provision of service in the public and private sector.

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**CMED6224 Practicum (42 hours)**

**(Pre-requisite: (i) CMED6200 Introduction to epidemiology; (ii) CMED6100 Introduction to biostatistics; (iii) CMED6201 Principles of public health; and (iv) Two other core modules in the concentration)**

The practicum is open to MPH students only. It aims to prepare students with a broad mastery of subjects and methods necessary for the field of public health practice, bridging theory and practice. Students gain relevant practical public health experience through a work placement in a local or international healthcare setting. Most full-time students complete the practicum in the summer semester. Alternatively the practicum may also be completed over a year with a defined weekly commitment to the sponsoring agency. The plan, structure and practicum deliverables are agreed between the student, the academic advisor and field supervisor.

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**CMED6901 Principles of healthcare management (20 hours)**

This module introduces organisational and management theory, concepts of organisation design and behaviour, management theory, managing people and organising work, managing change and change theory through a case-based approach.

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**CMED6201 Principles of public health (20 hours)**

History, concepts and principal concerns of public health; determinants of health; public health policies; healthcare systems; measurement of health, needs and impact of interventions; public health advocacy; control of avoidable morbidity and mortality; health promotion. The sessions are based on the study of either historical or contemporary global health problems using a wide range of different types and sources of information.

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### **CMED6704 Psychosocial issues in health and illness (20 hours)**

This module provides a comprehensive introduction to some core topics related to the psychological and social processes in relation to health and illness. This module illustrates the interactions between cognition, behaviour, social environment, health and illness. During the module, students work with others on case studies.

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### **CMED6221 Public health law and ethics (20 hours)**

This module provides students with an understanding of the potential tension between individual and societal rights, the “private interest versus public good” debate.

The module first introduces the conceptual foundations of health law, ethics and human rights, and issues relating to these fields. Students explore how actions taken on behalf of the public’s health may conflict with the rights of individuals and businesses. These conflicts are examined through critical current controversies in public health law and practices, e.g. surveillance vs. privacy rights, health promotion vs. freedom of expression and regulation of business.

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### **CMED6915 Public health leadership (20 hours)**

**(Pre-requisite: (i) CMED6901 Principles of healthcare management and/ or (ii) Previous healthcare work experience)**

This module focuses on the challenges of managing complex healthcare systems. It explores the leadership and motivational skills acquired by effective leaders, and discusses the different roles associated with managing the individual, the unit, the organisation, and the larger system.

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### **CMED6217 Qualitative health research (20 hours)**

This module provides a comprehensive introduction to qualitative health research, with the aim to helping students to acquire a sound knowledge base of the qualitative research process and to develop an appreciation of the importance of qualitative research in health science. During the module, various qualitative methods are introduced and discussed. Students have the opportunity to engage in qualitative research including data collection, analysis, as well as appraising qualitative research evidence.

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### **CMED6908 Quality health care (20 hours) (Suspended)**

Methods and strategies for quality measurement in quality improvement and accountability. Measurement of clinical quality using process or outcome data. Measurement of patient expectations/experience with the healthcare system. Nature and causes of variation in quality, variation related to overuse, underuse and misuse of services. Strategies for changing physician and organisational practice. Traditional quality improvement techniques, regulation, credentialing education, CQI, organisational learning, systems design, managed care, practice guidelines, information systems, performance reports, mediation.

**CMED6300 Quantitative research methods (20 hours)**  
**(Pre-requisite: CMED6200 Introduction to epidemiology)**

This module builds on the introductory module in epidemiology (CMED 6200) and provides an extension to topics relevant to causal inferences. The first part will include a discussion on 1) the fundamental difference between experimental and observational evidence; 2) different threats to validity including bias, confounding and reverse causation; 3) differentiation of causal factors from risks factors and its implication; and 4) the role of Bradford Hill criteria in causal inference. The second part will focus on the use of different study designs to improve causal inference, which include 5) an introduction to other study designs and analyses, such as natural experiments, meta-analysis, age period cohort models, Mendelian randomisation analysis, effect modification and mediation analysis; and 6) the role of traditional observational studies in causal inference.

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**CMED6903 Resources for health (20 hours)**  
**(Pre-requisite: CMED6900 Health policy and politics)**

This module analyses the origins and flow of financial resources through the entire health system, in a tri-axial fashion, in that what is consumed has been provided and financed. Therefore, money is traced from revenue sources to agents in financing schemes, to provision influenced by different factors of production (including operating cost structure and capital formation), to consumption by different beneficiaries resulting in observed utilisation patterns.

In parallel, students learn about the critical importance of non-financial resources, i.e. human resources, in the production of healthcare. The planning process for, production, deployment (including substitution), retention and continuous development of different types of healthcare professionals are illustrated. Special mention is also made of other possible resource constraints to optimal system functioning.

Finally common indicators to evaluate health system performance, with particular emphases on financing and human resources, are used to assess various prototypic examples drawn from empirical experience locally and elsewhere.

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**CMED6208 Risk: perception, decisions and communication (20 hours)**

Risk is inevitable in life, yet the ability to accurately judge risk and the decisions made thereafter are usually quite skewed by psychological, social and contextual factors, so much so that serious errors can occur in decision making. In healthcare, the ability to accurately assess risk and the psychological strategies that people adopt to avoid the threat that risk presents means that health hazards are often completely misrepresented both to ones self and to others. Health professionals also have the task of communicating health risk information to the community as well as individuals. How can information be presented in such a way as to effectively communicate the true nature of a hazard without distorting or falling into the trap of being ignored? This module looks in detail at the area of risk perceptions, the distortions of decisions by psychological and other factors and the communication of risk, all core skills for public health professionals.

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**CMED6910 Strategic management in healthcare (20 hours)**  
**(Pre-requisite: Previous healthcare work experience)**

This module aims to introduce different conceptual frameworks and methodologies required to develop sustainable strategies for organisations in healthcare – including but not limited to

governmental organisations, NGOs, hospitals/clinics, pharmaceutical companies, medical device companies.

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**CMED6202 The practice of public health (20 hours)**

The content of this module aims to promote the application of public health sciences to a wide range of common problems and issues. Each session will include one or more problems which can be used to illustrate the wide range of disciplines applicable (from an evidence-based perspective) to the practice of public health.

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