

MSc in Epidemiology and Biostatistics (Part-time)
Postgraduate Diploma in Epidemiology and Biostatistics (Part-time)
Diploma in Epidemiology or Biostatistics (Part-time)

Programme Director and Deputy Directors

Programme Director: **Professor Jin-ling TANG**
Programme Co-Director (Epidemiology): **Professor Suzanne C HO**
Programme Co-Director (Biostatistics): **Professor Benny ZEE**
Programme Co-Director (Research thesis): **Professor Joseph LAU**

Background

This programme aims to provide the basic skills, tools, and understanding for health professionals in the practice of epidemiology and health care evaluation. It is also dedicated to promoting leadership and providing postgraduate and continuing education and research in evidence-based health care and medicine.

Evidence-based medicine emphasises the need to base medical decision-making on firm fact. This may include data on disease etiology, diagnosis, and prognosis, as well as the benefits and harm of treatment. The best evidence comes from organised scientific research. The discipline of epidemiology is concerned with the methodology of scientific investigations into such health care practice issues, and with collecting the best evidence for decision-making. Biostatistics also plays a part by helping us understand the data obtained from these investigations.

Why Study Here

Our postgraduate programmes provide solid and comprehensive training on research methodologies, allowing participants to execute clinical and health-related research effectively. Besides covering conventional topics in epidemiology and biostatistics, the programmes place a strong emphasis on clinical epidemiology so that students will understand the practice of evidence-based medicine and health care. Students will also be able to gain practical knowledge through hands-on experience. The courses integrate lectures, tutorials, and computer workshops with practice in critical appraisals of research papers, writing grant applications, and research protocols. We will also provide information on the latest developments in the field, with the aim of turning beginners into professional researchers and good users of biomedical information.

Who Should Apply

These programmes will greatly benefit clinicians conducting research or applying evidence-based information to patient management; health managers who are concerned with quality outcome; and allied health professionals and researchers working in public health and preventive medicine. Pharmaceutical personnel involved

in implementing clinical trials, and researchers who wish to strengthen their study designs and their analytical abilities, will also find these programmes to be of great value.

Aims and Features

We offer three different part-time programmes. The Postgraduate Diploma and Diploma programmes involve one year of coursework. The MSc programme requires two years of coursework and one research thesis.

The Master of Science (MSc) programme is a continuation of the Postgraduate Diploma in Epidemiology and Biostatistics. It will expand the basic training with a broader range of topics, and more in-depth perspectives. We are offering new elective modules on infectious diseases, for students who have a special interest in this area.

Our MSc students are required to carry out an independent research project under close supervision, and produce theses that meet publishable standards. We encourage our students to apply for grant support for their work. In the past few years, our students' work have resulted in publications in major journals, including *Lancet*, *Cancer*, *American Journal of Emergency Medicine*, *Journal of Psychosomatic Research*, and *American Journal of Respiratory and Critical Care Medicine*, among many others.

Programme Structure

The Diploma in Epidemiology and the Diploma in Biostatistics are designed for students who have an interest in one of the two subjects. Students will need to accumulate 9 units of credit in their chosen subject. The Postgraduate Diploma in Epidemiology and Biostatistics covers both subjects, and comprises 9 units' worth of epidemiology modules, and 9 units' worth of biostatistics modules, giving a total of 18 units. The MSc in Epidemiology and Biostatistics has the same content as the Postgraduate Diploma in the first year, but in the second year requires students to take further modules and to complete a research thesis, which should meet a publishable standard. A total of 36 units will be required to complete the Master's course.

During the first year of all three programmes, lectures take place over three terms, on Tuesday and Thursday evenings from 6:30 pm to 9:30 pm (6 hours per week), with occasional Saturday classes. Additional symposia and workshops will be held to increase exposure and to enhance the knowledge base of the programme participants. In the second year of the Master's programme, courses are usually taught on Monday and Friday evenings, from 6:30 pm to 9:30 pm (6 hours per week). Classroom sessions will normally be held at the Prince of Wales Hospital.

The modules:-

	Code	Title	Units
Year 1	EPB 5111	Epidemiology I ⁺	3
	EPB 5121	Biostatistics I [*]	3
	EPB 5112	Epidemiology II ⁺	3

	EPB 5122	Biostatistics II*	3
	EPB 5113	Epidemiology III ⁺	3
	EPB 5123	Biostatistics III*	3
Year 2 (for MSc programme)	EPB 6101	Data collection methods	1
	EPB 6111	Advanced course in epidemiology	2
	EPB 6112	Writing of research thesis	1
	EPB 6121	Advanced selected topics in biostatistics	1.5
	EPB 6122	Advanced biostatistics I	1.5
	EPB 6201	Data collection and analysis for research thesis I	1
	EPB 6221	Advanced biostatistics II	2
	EPB 6301	Data collection and analysis for research thesis II	2
	EPB 6302	Writing up of thesis and presentation of results	3
Year 2 Electives (for MSc programme)	EPB 6211	Selected topics in epidemiology and evidence-based health care	3
	PBH 7007	Methodology and Approaches in Qualitative Studies and Field Work	1
	PBH 7209	Infection Control in Health Care and Community Settings	2
	PBH 7212	Methods in Infectious Disease Epidemiology	2
	PBH 7702	Common Disease in Men	2
	PBH 7801	Women's Health I	2
	PBH 7901	Nutrition for Public Health	2
	PBH 7902	Promoting Healthy Nutrition	2
	PBH 7903	Global Health	2
	PBH 7904	Healthy Settings	2
	PBH 7907	Child Public Health	2
	PBH 7908	Maternal Health	1
	PBH 7909	Medical Sociology	1
PBH 7910	Health for Special Population	2	

⁺ Requirement of the Diploma Programme in Epidemiology

* Requirement of the Diploma Programme in Biostatistics

Note: Proposed elective courses are mainly to be arranged during Year 2, Term 2 or 3. Some courses may not be offered yearly.

Core Courses:-

EPB 5111 Epidemiology I (3 Units)

Basic epidemiology:

- Introduction to epidemiology
- Applied health research methods
- Designing and conducting epidemiological studies (descriptive, case-control, cohort, clinical trials and meta-analysis)

EPB 5121 Biostatistics I (3 Units)

Basic biostatistics:

- Data exploration and data presentation
- Probability distributions and theories
- Fundamentals of statistical theories – estimation and hypothesis testing
- Sample size planning
- Analysis of Variance (ANOVA)
- Statistical computing workshop

EPB 5112 Epidemiology II (3 Units)

Further concepts and application of epidemiology:

- Analysis of epidemiological data
- Further epidemiological concepts
- Systematic reviews and health information

EPB 5122 Biostatistics II (3 Units)

Further concepts of biostatistics:

- Non-parametric methods
- Life table methods
- Data analysis workshop
- Selected topics in biostatistics
- Statistical computing workshop

EPB 5113 Epidemiology III (3 Units)

Critical appraisals and protocol development:

- Critical appraisals and knowledge-based health care / medicine
- Protocol development

EPB 5123 Biostatistics III (3 Units)

Regression and logistic regression analysis:

- Clinical trial methods
- Linear regression methods
- Logistic regression methods
- Statistical computing workshop

EPB 6101 Data collection methods (1 Unit)

Students will conduct fieldwork and collect the required data for their thesis, applying the principles of epidemiology and biostatistics in practice, and dealing with the practical matters regarding data collection. The necessary data collection skills will include the ability to determine the variables to be measured, to design measurement instruments, to assess these instruments, and to make measurements during fieldwork.

EPB 6111 Advanced course in epidemiology (2 Units)

Students should learn: (1) advanced concepts, principles, and applications of epidemiological study designs; (2) basic techniques for tackling the problems that may arise in different studies; (3) basic principles and techniques for analysing epidemiological data; and (4) basic concepts and theories underlying the principles of analysing epidemiological data.

EPB 6112 Writing of research thesis (1 Unit)

This course will prepare students in writing up their degree thesis for scientific

publication. The basic knowledge and skills they will acquire include reviewing background literature, presenting methods and results, interpreting results, discussing the limitations of the study, making implications of the findings in practice and in further research, and writing in the style of scientific publications.

EPB 6121 Advanced selected topics in biostatistics (1.5 Units)

Students will be introduced to important topics in biostatistics that have special relevance to medical research.

EPB 6122 Advanced biostatistics I (1.5 Units)

Among other topics, students will learn about multivariate analysis, longitudinal data, principal components analysis, factor analysis, and cluster analysis.

EPB 6201 Data collection and analysis for research thesis I (1 Unit)

Students will analysis the data they collect as part of their degree thesis. The exercise will enable students to deal with practical problems in data analysis and enforce what they have learnt in class.

EPB 6221 Advanced biostatistics II (2 Units)

Students will learn how to deal with problems and difficulties in the design, conduction, analysis, and write-up of epidemiological research, in preparation for completing their degree thesis.

EPB 6301 Data collection and analysis for research thesis II (2 Units)

Students will continue to analyse the data collected, and produce a progress report as part of completing their degree thesis.

EPB 6302 Writing up of thesis and presentation of results(3 Units)

Students will learn how to write for scientific publications in the appropriate style, and complete the writing up of their thesis.

Elective Courses:-

EPB 6211 Selected topics in epidemiology and evidence-based health care (3 Units)

This course will expose students to the applications of epidemiological thinking and methods in search for the causes of disease, and in the evaluation of medical interventions, planning of health care services, and prevention and clinical management of disease. These ideas will be portrayed through the demonstration and analysis of real cases of historical significance. Students will also be introduced to more advanced concepts and methods in epidemiology, such as systematic review, measurement error, and advanced analytical methods.

PBH7007 Methodology and Approaches in Qualitative Studies and Field Work (1 Unit)

This course will introduce students to the topical issues related to conducting qualitative research and allow for some hands-on exposure to the methods of data collection and analysis used in this methodology

PBH7209 Infection Control in Health Care and Community Settings (2 Units)

In this course, students would be introduced to the principles and practice of infection control

in three settings – hospital and clinic, laboratory and the community, through a series of lectures tailored to the needs of public health professionals. The emphasis would be on the development of a systematic approach to infection control practice.

PBH7212 Methods in Infectious Disease Epidemiology (2 Units)

In this course, Students would be introduced to the application of a range of both conventional and new methods for conducting epidemiology studies relating to infections. A cross-disciplinary approach would be adopted. Students would be encouraged to learn through interactive exercises on top of lectures and demonstration.

PBH7702 Common Diseases in Men (2 Units)

Topic will include male obesity and weight management, update on diabetes mellitus, cardiovascular disease management in men, respiratory disease management, male osteoporosis, sports medicine, management of musculoskeletal diseases, traveller's health, male baldness and common skill problems in men.

PBH7801 Women's Health I (2 Units)

This course will focus on understanding of social and cultural perspectives of women's health in both local and global contexts. Cultural and social definitions in health and illness, multiple roles of women and the specialty group in migration and minorities, as well as female sex workers will be discussed.

PBH7901 Nutrition for Public Health (2 Units)

After taking this course, the students will be able to: 1) identify nutrition-related public health problems relevant at the local, regional, national, and international levels; 2) identify the heterogeneous causes of these problems.

PBH7902 Promoting Healthy Nutrition (2 Units)

Students will be able to: 1) develop strategies to deal with nutrition-related health problems at the local, regional, national, and international levels; 2) evaluate the impact of these strategies; 3) understand the process whereby research-based evidence provides a basis for the development of public health policy; 4) develop a proposal that integrates knowledge on human nutrition with epidemiological and behavioural concepts, in order to improve diet and activity and reduce disease risk in populations; and 5) ultimately, improve nutrition-related health by applying evidence to action and solving problems.

PBH7903 Global Health (2 Units)

The global nature of public health issues across the domains of practice is of growing importance. Problems of chronic disease, such as obesity and its consequences, as well as communicable diseases, such as HIV/AIDS, malaria, and TB, are of international concern. So too are the health effects of international policies and trade agreements. In addition, public health has a key role to play in disasters such as earthquakes, floods, and tsunamis. This course will introduce a global perspective to communicable and non-communicable diseases; the inequalities between nations; the impact of the wider environment on health; response to disasters; and the role of international bodies.

PBH7904 Healthy Settings (2 Units)

After this course, students will be able to: 1) understand basic health promotion theories; 2) describe settings for health promotion such as schools, universities, work places, communities, and hospitals; 3) analyse and critique the strengths, weaknesses,

opportunities, threats, and barriers to the setting-based approach for health promotion.

PBH7907 Child Public Health (2 Units)

This course aims to examine the indicators of child health and the factors contributing to child health in both developed and developing countries. Both biomedical and sociomedical issues of child health will be systematically explored. Health services and health education for Hong Kong children will also be discussed.

PBH7908 Maternal Health (1 Unit)

Students will be able to: 1) apply public health principles in dealing with maternal health issues; 2) describe key issues affecting the health of mothers; 3) understand the challenges in providing reproductive health related services; and 4) develop a perspective towards family planning policy.

PBH7909 Medical Sociology / Anthropology (1 Unit)

Medical sociology is the sociological study of health, illness, and medicine, which examines the sources of disease and the cultural meanings of illness, the social organisation of the medical care system, the impact of technology on health, the social meanings of genetics, and new concepts of the body and health. Areas of discussion include the influence of ethnicity, gender, age, and socioeconomic status on the access to and quality of health care; health and risk-taking behaviour; social constructs of illness; health beliefs and perceptions; health effects of sociocultural changes; the social implications of biomedical innovations; education; communication; and other sociological aspects of medical organisation and practice.

PBH7910 Health for Special Population (2 Units)

Health needs vary according to characteristics of the population. This course underlines key health issues and needs among different population subgroups. Specifically, the health needs of special and vulnerable population groups will be explored and discussed. Highlighted features include the planning, implementation, and evaluation of programmes targeted to special health needs.

Teaching Format

The language for instruction is English. The teaching format includes lectures, tutorials, computing sessions, discussions, and presentations.

Special support such as one-to-one or small group tutorials are offered to cater for needs of individual students. All students are arranged a very experienced teacher to be their protocol or dissertation supervisor. These supervisors are leading researcher in many research specialialities. Students have enjoyed close and effective supervision.

Teaching Faculty

Experienced teaching staff from the School of Public Health, in The Chinese University of Hong Kong's Faculty of Medicine, will take primary responsibility for the programmes. Additional teaching expertise will come from expert guest lecturers

from Hong Kong and overseas. International contributors have hailed from many prestigious institutions, including the University of California, Berkeley; Oxford University; the London School of Hygiene and Tropical Medicine; Johns Hopkins University School of Hygiene and Public Health; the University of Toronto; Stanford University; Sun Yat-Sen University of Medical Sciences; Peking University Medical School; and the Chinese Academy of Preventive Medicine.

Duration / Modes of Study / Tuition Fees

Programme	Duration	Mode of Study	Tuition Fee
Master of Science in Epidemiology and Biostatistics	2 years	Part-time	HK\$64,000 per year ^a
Postgraduate Diploma in Epidemiology and Biostatistics	1 year	Part-time	HK\$57,000 ^a
Diploma in Epidemiology or Biostatistics	1 year	Part-time	HK\$28,500 ^b

^a Payable in two instalments

^b Payable in one instalment and other administrative fee: HKD 1,000

Recognition of the Programmes

The Hong Kong Medical Council recognises both the Master of Science and Postgraduate Diploma degrees in Epidemiology and Biostatistics as quotable qualifications. CME credits for non-specialists can also be obtained from The Chinese University of Hong Kong.

The Diploma in Epidemiology or the Diploma in Biostatistics will be offered by the School of Public Health if the participants fulfil the course requirements.

Course and Unit Exemptions

The credits of the Postgraduate Diploma in Epidemiology and Biostatistics awarded by The Chinese University of Hong Kong are equivalent to those earned in the first year of the Master of Science programme. These credits are transferable, provided the students meet the entrance requirements set by the Graduate School, and complete their Postgraduate Diploma with an average grade of B or above. Discrepancies in the programme fees and administrative fees will be charged accordingly.

Graduation Requirements

Master of Science and Postgraduate Diploma Programmes

Participants must attend at least 80% of the lectures, seminars, tutorials, and practical sessions. Participants need to complete the necessary course requirements and pass a test on IT proficiency.

Diploma Programmes

Participants must obtain at least a C- grade or above in the overall assessment of all required courses, and have attended at least 80% of the scheduled sessions.

How to Apply

Admission Requirements:-

Potential candidates may include graduates with a major in medicine, public health, nursing, other health-related disciplines, social sciences, physical, or biological sciences. Past research experience in the health sciences will be an advantage but is not essential. Basic mathematical skills (such as high school level algebra) are required for the programmes. Students should also fulfil the University's English Language Proficiency Requirement for admission.

Master of Science Programme

All students must meet the general admission requirements of the Graduate School. Applicants shall have:

- graduated from a recognised university and obtained a Bachelor's degree, normally with honours not lower than Second Class; or
- graduated from an honours programme of a recognised university with a Bachelor's degree, normally achieving an average grade of not lower than B in undergraduate courses; or
- completed a course of study in a tertiary educational institution and obtained professional or similar qualifications equivalent to an honours degree.

Postgraduate Diploma Programme

Applicants shall have:

- graduated from a recognised university and obtained a Bachelor's degree.

Diploma Programmes

Applicants shall have:

- a university degree (or equivalent), and should preferably be working in a health-related area.

Admission Procedures:-

An information session on the Epidemiology and Biostatistics programmes will be held on February 7, 2009 at the School of Public Health, Prince of Wales Hospital, Sha Tin, New Territories, Hong Kong. To reserve a place, please contact Ms Mandy CHAN, the Programme Administrator.

Master of Science and Postgraduate Diploma Programmes

Requests for application materials can be made:

- By sending a stamped (\$4.0), self-addressed envelope (A4 size) to the Programme Administrator or the Graduate School Office;
- In person from the Graduate School Office, G01, G/F, Academic Building No.1, The Chinese University of Hong Kong, Sha Tin, New Territories, Hong Kong; or
- In person from Ms Mandy CHAN, Room 416, 4/F, Department of Community

and Family Medicine, School of Public Health, Prince of Wales Hospital, Sha Tin, New Territories, Hong Kong.

Applicants are encouraged to use online application procedures to save time and postage. Please visit the Graduate School website at <http://www2.cuhk.edu.hk/gss>.

Each application for the Master of Science programme should be submitted together with a brief written statement, in English, of the applicant's research interest and support documents. The details please refer to the Graduate School website at <http://www2.cuhk.edu.hk/gss>. Completed application forms must be returned to the Programme Administrator by March 31, 2009.

Diploma Programmes

Requests for application materials can be made:

- By sending a stamped (\$4.0), self-addressed envelope (A4 size) to the Programme Administrator; or
- In person from Ms Mandy CHAN, Room 416, 4/F, Department of Community and Family Medicine, School of Public Health, Prince of Wales Hospital, Sha Tin, New Territories, Hong Kong.
- By downloading the application form.

[Application Form - Diploma in Epidemiology or Biostatistics \(Part-time\)](#)

Completed application forms must be returned to the Programme Administrator by June 30, 2009.

Website of Master of Science programme:

<http://www.cuhk.edu.hk/med/cmd/msceb/index.html>

Website of Postgraduate Diploma and Diploma programmes:

<http://www.cuhk.edu.hk/med/cmd/dip/index.html>

Application Deadline:-

Diploma programmes	June 30, 2009
Master of Science and Postgraduate Diploma programmes	March 31, 2009

Administrative Staff

Programme Administrator	Telephone No.	Fax No.	E-mail Address
Ms Mandy CHAN	2252 8796	2609 5825	Mandy_chan@cuhk.edu.hk

Alumni

Over 550 students have graduated from our postgraduate programmes, many of whom are now holding important positions and have become capable and professional researchers in their fields.

Name	Advancement Gained
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Dr William FOO
Specialist in Clinical Oncology

*Graduate of the Diploma in
Epidemiology and Applied Statistics*

Director, Radiotherapy and Oncology
Centre, Hong Kong Baptist Hospital

Samples and populations; statistics and its interpretation – these were what I learnt 10 years ago, and I still find them immensely useful in reading medical literature. Equipped with this knowledge I was able to explore a whole new world of ‘macro-medicine’, especially in cancer epidemiology. My understanding of epidemiology and statistics were indispensable tools in past years, during my work as the Director of the Hong Kong Cancer Registry.



Dr Wing-wa YAN
Specialist in Critical Care Medicine

*Graduate of the Master of Science in
Epidemiology and Biostatistics*

Director and Consultant, Intensive Care
Unit, Pamela Youde Nethersole Eastern
Hospital

My experience with the Master’s course can be described by two words: ‘practical’ and ‘serious’. The course materials were very practical in the sense that they were relevant to my daily work. Besides covering the basic epidemiological concepts, they also emphasised the application of these concepts in actual clinical papers. Various research methodologies were introduced through lectures, tutorial sessions, and hands-on computer workshops. The lecturers, tutors, and the coordinator were serious about teaching. All my classmates experienced their wholehearted dedication to the course. Having taught others in my specialty for more than ten years, I enjoyed such care. Now that I have successfully completed the course, I have fulfilled my original objective: I can apply evidence-based information to clinical management and conduct clinical research.



Dr Jacqueline YAP

Specialist in Anaesthesia and Pain
Medicine

*Graduate of the Master of Science in
Epidemiology and Biostatistics*

Associate Consultant, Anaesthesia and
Operating Services, Alice Ho Miu Ling
and North District Hospitals

This postgraduate programme provided a solid theoretical and practical background in epidemiology and biostatistics. Through the expert teaching, guidance, and advice provided by the lecturers and tutors, I gained the knowledge and practical skills necessary in research and data analysis. More importantly, this knowledge can also be applied to my daily clinical practice in medicine. The completion of this programme imparted me with a sense of accomplishment, provided opportunities for establishing friendship with peers and experts with similar interests, and served to pique my interest in epidemiology and biostatistics. I definitely recommend this programme to those in the health care industry, since the advancement gained is invaluable to one's personal and professional development.