

## **SAW SWEE HOCK SCHOOL OF PUBLIC HEALTH – MODULE DESCRIPTIONS**

### **GEK1900/ GEH1049 Public Health in Action**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

From the global increase in obesity to SARS, a range of health issues and solutions will be explored in differing contexts throughout the world. Working in small groups, students debate and evaluate paths to addressing global health issues in a variety of cultural contexts. For example, lessons learned about tuberculosis in Russia may be applied to the Singaporean context, or students may examine efforts to prevent newborn deaths in developing nations. Students will develop an appreciation of how the health of an entire population impacts individuals and how complex problems can be prevented or addressed using culturally appropriate solutions.

### **SPH2101 Public Health and Epidemiology**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

Epidemiology is the study of the patterns, causes, and effects of health and disease conditions in defined human populations. It is the cornerstone of public health, with potential impact on both personal decisions about our lives, and also public policy decisions. Epidemiology is relevant for the prevention of human diseases to modern systems science with inputs from many disciplines, like biology, physiology, computer science, engineering and social science.

This module uses a lecture plus case-study based approach to introduce fundamental concepts of epidemiology, such as disease frequency, association, causation, confounding, bias, screening and surveillance.

### **SPH2102 Lifestyle, Behaviour and Public Health**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

This module will provide an overview of important behavioural lifestyle factors (Smoking, Diet, Physical Activity, Alcohol, and Sexual Behaviour) and their impact on individual and population health. It introduces principles of behavioural change and health promotion and how they apply to behavioural lifestyle factors and disease prevention. Students participating in this module will develop a theoretical understanding of health behaviour and its application to behaviour change approaches. They will also learn to consider effectiveness and ethics of health promotion strategies in the context of discussed lifestyle factors.

### **SPH2103 Systems and Policies to improve Health**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

This module will introduce you to ways we can improve the health of a community through examining the role of the government, healthcare professionals, the health system and the individual. The module will explore common health problems such as obesity, diabetes, influenza and mental health and what we can do about these problems through enacting health policy and programs. We will discuss case studies from Singapore and the region.

### **SPH2104 Public Health Nutrition**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

Public Health Nutrition lies at the intersection of public health and nutritional sciences and is concerned with the “promotion and maintenance of nutrition-related health and wellbeing of populations through the organized efforts and informed choices of society”. Such approaches are required to solve many of the complex nutritional challenges, such as obesity, type-2 diabetes, micronutrient deficiencies, and hunger, which we face today. In this class we will study fundamental concepts related to nutrition, understand frameworks used to examine public health issues, and examine key historical and current public health nutrition challenges and policies.

### **SPH2105 Introduction to Global Health**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

Over the past decade global health has evolved from buzzword to discipline, attracting interest from governments, academic institutions and funding organizations. But, what is “global health”? Although we have made enormous progress in improving health status over the past 50 years, the progress has been uneven. Why?

By examining major global health challenges, programs and policies, students will analyze current and emerging global health priorities, including communicable and non-communicable diseases, health inequity, health systems, and major global initiatives for disease prevention.

### **SPH2106 Health in the Later Years**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

Singapore has one of the fastest ageing population in Asia and ageing populations are an international phenomenon. To prepare for an aged society, there is a need to understand the wide breadth and complex nature of ageing which impacts the health, physical, functional, social, psychological and economic aspects of an older person.

Students will gain a basic overview of the aging population and its increasing relevance for health, social and economic planning and policy, both in Singapore and internationally. Other areas covered include demography of ageing, normal and abnormal ageing, common ageing-related diseases, health and social services and policies for older persons, and medico-legal and ethical issues of care for the older persons.

### **SPH2201 Health of the Poor in Asia**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

This module introduces students to global public health, with a focus on health issues among some of the poor in Asia. Key issues explored by the module include the following: What are the priority health issues that dominate the global health agenda today, and which disproportionately affect the poor? What are the systemic and societal factors that determine disease burden and adverse health outcomes among this subgroup? What are the community, health system and policy levers that are available to ameliorate these disparities?

Note: This module is offered through FASStrack Asia: The Summer School

### **SPH3101 Biostatistics for Public Health**

*Modular Credits: 4*

*Pre-requisites: Any of following modules or their equivalent, subject to approval by module coordinator:*

- i. BN2102 Bioengineering Data Analysis
- ii. DSC2008 Business Analytics – Data and Decisions
- iii. EC2303 Foundations for Econometrics
- iv. PR2103 Pharmacostatistics
- v. SC3209 Data Analysis in Social Research
- vi. ST1131 Introduction to Statistics
- vii. ST1232 Statistics for Life Sciences
- viii. ST2334 Probability and Statistics

*Preclusions: Nil*

This module will introduce the entire biostatistical data analysis workflow in public health, from data management to data analysis and the interpretation of results, translating data into reliable and consumable information for knowledge discovery in public health. Particular emphasis on the application of regression models in public health without the mathematical details and the proficiency in using statistical software

(SPSS) to perform data analysis, integrating biostatistics, computer applications and public health for improving the health of mankind.

### **SPH3102 Public Health Communication**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

This module equips students with the principles and skills to design health communication messages and activities/projects e.g. talks, skills development, telehealth in a variety of settings such as the school, workplace, internet and the community. It emphasizes the critical analysis and application of health communication theory and social marketing principles in the design of messages and communication projects to promote health in the community.

### **SPH3103 Public Health Economics**

*Modular Credits: 4*

*Pre-requisites/ Preclusions: Nil*

This course will provide an introduction to the field of health economics. We will discuss some of the key concepts that health economists use to analyze the production, distribution, and organization of health care services and delivery (including market structure, demand and supply, incentives and financing mechanisms) and apply these concepts to selected current issues in health policy. Students will learn economic principles and apply them through a semester-long research project on a critical public health issue.

### **SPH3104 Infectious disease epidemiology and public health**

*Modular Credits: 4*

*Pre-requisites: SPH2101 Public Health and Epidemiology*

*Preclusions: Nil*

This module gives an overview of the epidemiology of infectious diseases and its relevance to public health. It outlines fundamental concepts governing the interaction between microbes and host populations, and how such interactions affect the distribution of disease and the options for surveillance, prevention and control.

Epidemiology and principles of prevention and control for several types of infectious diseases will be described, and applied to key diseases of global and local importance including vaccine preventable diseases, food-borne diseases, zoonotic and environment-related infectious diseases, vector-borne diseases, healthcare associated infections and drug resistant organisms, tuberculosis, and HIV and other sexually transmitted infections.

### **SPH3109 Designing Public Health Programmes**

*Modular Credits: 4*

*Pre-requisites: GEK1900 Public Health in Action and SPH2101 Public Health and Epidemiology*

*Preclusions: Nil*

This module introduces students to the planning and designing of health interventions and Public Health programmes. It provides the theoretical constructs that underpin the development of public health programmes, as well as provides students the opportunity to design and pilot a programme for a specific identified health issue. The theoretical knowledge and practical skills developed in this module include training students to analyse any given health situation or problem, identify possible interventions and prioritise among them based on an objective set of guidelines, develop plans for implementation and translate these into action.

### **SPH3201 Public Health Practice**

*Modular Credits: 4*

*Pre-requisites: Students must have completed at least 8 MCs of essential modules and at least 8 MCs of electives for the Minor in Public Health.*

*Preclusions: Nil*

This module introduces students to the public health infrastructure and functions in Singapore, as well as

provides hands-on exposure to work by way of attachments at selected public health agencies. It allows students to explore career opportunities in public health, develop related essential skills, specifically soft skills such as management of resources, time, money and human, interpersonal relationships, communication and advocacy and provides practical exposure to selected public health careers.

*Remarks: This module will be graded as "Completed Satisfactorily/ Completed Unsatisfactorily" ("CS/CU"). This module will be offered from Special Term 3 through Special Term 4.*