

## **Course Title**

### **Master of Science Programme in Epidemiology (International Programme)**

**Master Degree:** Master of Science Programme in Epidemiology (International Programme)

**Academic Institution:** Faculty of Medicine, Prince of Songkla University

**Duration:** 2 years

#### **Objectives:**

1. To comply with the rules and regulations of the organization and society
2. To conduct morally and ethically sound research
3. To demonstrate the fluent skills to conduct a literature search using information technology and summarise the results effectively
4. To appropriately and critically appraise and interpret the results of statistical analyses
5. To design a research study which is valid and relevant to the health problems and utilised for improving health
6. To demonstrate the systematic knowledge in theoretical and practical aspects of epidemiology which is relevant to the current global situation
7. To use statistics and research technology to analyse problems at the national and international levels
8. To manage epidemiological data and create a database for entering and storing this information which is useful for international publications
9. To demonstrate knowledge and skills of academic and research presentation which is pertinent to professional diversity

#### **Course Synopsis & Methodology:**

This is a sandwich-type international programme. In the first year students will attend classes at Prince of Songkla University in which all students will gain knowledge and skills in epidemiology, statistics, research methodology, database management, critical appraisal of research studies, qualitative research and field work. In the second year students will concentrate on their thesis which should focus on the importance of health problems in the student's own country using good research methodology. In the first half of the second year the students will collect data at their home institution. The later half is for data analysis and preparation of the thesis and manuscripts for publication in international journals.

## **Course Content/ Study Topic:**

### Core courses

- Research methodology, Introduction to research methodology, rationale for research, formulation of research objectives and hypothesis, research strategy, sampling and population, measurement, data collection and analysis, report preparation.

- Epidemiological Methods I, Scientific reasoning, health indicators, determining health priorities, measurement of risk, causation, source of bias, introduction to study design, cross-sectional study, case-control study, cohort study, randomized controlled trial, bias, confounding and interaction, preparation of field study and construction of questionnaire.

- Epidemiological Methods II, Appraisal of original articles, clinical agreement, diagnostic tests and screening, randomized controlled trial, good clinical practice (GCP) and special epidemiological methods.

- Biostatistics and statistical computing I, Summarizing and presenting data, probability theory, binomial/Poisson distribution, normal distribution, sampling distributions, estimation, hypothesis testing of means and proportions, regression and correlation, non-parametric tests, analysis of categorical data.

- Biostatistics and statistical computing II, Data exploration and strategy of data analysis, analysis of 2 x 2 tables, analysis of confounding and interaction, logistic regression, Poisson regression, survival analysis, sample size, meta-analysis.

- Computer application for research, Basic anatomy and physiology of computers, operating systems, file management, hard disk management, computer virus, security, word processing, database, spread sheet, graphic presentation, computer network, Internet, electronic mail, academic database, data quality control, relational database and development of information systems for health services.

- Journal appraisal, Understanding and criticism of an original article in an international journal presented in the class.

- Field work, Identification of priority for a rapid (1 week) field research project, preparation of the proposal, planning of the study, data collection and analysis, presentation to decision makers and relevant parties.

### Elective course

- Qualitative techniques in health research, Concepts of qualitative techniques, conceptual framework, interview techniques, focus group discussion, observation techniques, field work.

### The thesis

The thesis demonstrates the capability of the student in conducting a well-planned research study of international standard.

A Master thesis is the beginning of professionalization for an epidemiological research career. The proposal will be prepared and refined in parallel with the progress of the coursework through group discussion before submission for approval by the Committee for Graduate Study of the University by the end of the first year. Data collection will be undertaken for a period of six months in the student's regular place of work. Final analysis and preparation of the thesis will occupy the final six months in Prince of Songkla University to ensure quality of work and success.

### **Qualification:**

1. Direct collaboration between our institute and the institute of the applicant.
2. Research funding from the applicant's organization or a funding agency in the applicant's country which will provide administrative support for the data collection phase during the second year of study.
3. Previous work experience related to health
4. Healthy and active
5. Good command of English
6. Age not more than 40 years (preferable)
7. Having publication in a peer review journal in local or international paper.

### **Document Required:**

- Application form
- A medical examination report which includes results of chest x-ray, complete blood count, urinalysis and HIV test.
- An official transcript from all institutions of higher learning attended.
- Curriculum vitae, including a list of publications if available.
- An official report of the result of the English language proficiency examination (TOFEL 500, IETLS 5.0 , CU-TEP $\geq$ 60, PSU-TEP $\geq$ 60).

**Closing date for Nominations:** April 15, 2018

**Late or incomplete applications/documents will not be considered.**