

Department of Epidemiology and Population Health

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The Department of Epidemiology and Population Health offers courses in epidemiology, biostatistics, and population health to graduate students in the Faculty of Health Sciences and the Faculty of Medicine. The course offerings to students in the Master of Public Health (MPH) program, the Master of Science (MS) in Epidemiology program, and the Master of Science (MS) in Population Health program are given as core, required, and elective courses. In addition, members of the department offer courses in statistics and epidemiology to students in the Medical Degree program, and coordinate and participate in teaching courses in preventive medicine and public health programs in the Faculty of Medicine.

EPHD 225 Medical Statistics 1.2; 2 cr.

An introductory course for Medicine I students to the study of statistics applied to medicine. Topics include introduction to design in medical research; planning and conducting survey research; methods of describing data; statistical inference for means and proportions, both parametric and non-parametric; and multiple linear regression and logistic regression.

EPHD 226 Epidemiology 2.2; 3 cr.

A course required of Medicine II students which consists of lectures and complementary practical sessions that provide students with basic epidemiological tools relevant to both clinical and public health practice. This course also covers issues in design, conduct, and analysis of epidemiological studies, in addition to critical appraisals of scientific literature.

EPHD 300 Principles of Epidemiology 2.2; 3 cr.

A course in principles, concepts and application of epidemiology in the public health field. The course consists of lectures, assigned readings and complimentary practical sessions that provide students with basic epidemiological knowledge and tools relevant to public health practice. Students are given the opportunity to acquire an understanding of the vocabulary of epidemiology and methods of epidemiological research, investigation and control. This course also offers applied epidemiological knowledge of major diseases of public health significance with a focus on disease ecology, etiology, transmission and contagion modes.

^{*} On Leave

^{*} Seconded to the Center for Research on Population and Health (CRPH)

^P Part time

EPHD 310 Basic Biostatistics**2.2; 3 cr.**

An introductory Biostatistics course that covers basic concepts in statistical methods and is offered to graduate Public Health students. The course demonstrates methods of exploring, organizing, and presenting data. The course presents the foundation of statistical inference from estimation, to confidence interval and testing of hypothesis. Applications include comparing population means or proportions via data obtained from paired or independent samples, one way ANOVA. Also, it introduces simple linear regression, correlations, logistic regression and nonparametric methods for data analysis.

EPHD 312 Analysis of Continuous Data**2.2; 3 cr.**

A course that deals with concepts and methods for the analysis of continuous outcomes. Main focus is on multiple linear regression. Analytical means to control for confounding and effect modification while maximizing precision is explored. The methods of regression diagnostics are explained. Basic theory is considered; however, the emphasis is on application. Applications of the statistical techniques are carried out using the statistical package SPSS. *Prerequisite: EPHD 310, or consent of instructor.*

EPHD 313 Analysis of Categorical Data**2.2; 3 cr.**

A course that covers univariate and multivariate statistical techniques for categorical data. Topics include distributions, measures of association and inference for categorical data, log-linear models for multi-contingency tables, and logistic regression for binary, polytomous, and ordinal responses. In addition, the concept of maximum likelihood estimation is introduced. Applications of the statistical techniques are carried out using the statistical package STATA. *Prerequisite: EPHD 310, or consent of instructor.*

EPHD 320 Design and Analysis of Epidemiological Studies**2.2; 3 cr.**

This course is offered to graduate students who have already been exposed to basic epidemiological and biostatistical concepts. It covers in detail methodological issues concerning the design and analysis of epidemiological studies with particular emphasis on case control and cohort studies, and the interpretation of results. *Prerequisites: EPHD 300 and EPHD 310, or consent of instructor.*

EPHD 321 Design and Analysis of Clinical Trials**1.2; 2 cr.**

A course that focuses on issues in the design and organization of randomized controlled clinical trials: ethical and legal issues, patient selection, recruitment, masking and randomization, endpoint definition, protocol development, and statistical analysis. Designs such as cross-over designs, factorial-designs, and meta-analysis are discussed. *Prerequisites: EPHD 300 and EPHD 310, or consent of instructor.*

EPHD 322 Special Topics in Epidemiology**2.0; 2 cr.**

A course that covers selected topics of special interest to trainees in epidemiology. Examples include assessment of disease burden using epidemiological studies, occupational epidemiology, epidemiology of aging, epidemiology of maternal-child problems, or nutritional epidemiology.

EPHD 323 Epidemiology of Communicable and Non-communicable Diseases**3.0; 3 cr.**

The course examines a number of communicable and non-communicable diseases selected, given their burden on morbidity and mortality, at the local and international level. The course provides an overview of their public health importance, epidemiology, associated risk and protective factors, and strategies for control and prevention. Major methodological issues pertaining to undertaking an assessment and/or implementing an intervention are also discussed.

EPHD 336	Tutorial in Epidemiology	1–3 cr.
EPHD 337	Tutorial in Biostatistics	1–3 cr.
EPHD 338	Tutorial in Population Health	1–3 cr.
EPHD 340	Seminar	0 cr.
<p>A seminar that provides students with an opportunity to review, critique, and orally present their evaluation of either peer-reviewed articles or other literature in epidemiology or population health, and/or their research projects/theses that are in progress for feedback. Major methodological and conceptual issues are highlighted and discussed. <i>Offered in the fall and spring semesters.</i></p>		
EPHD 345	Research Project	1.2; 2 cr.
<p>The course involves a research project that the student carries out within his/her area of concentration or interest, as an individual or as part of a group. This research may focus on one or more of the qualitative and quantitative methodologies introduced in Research Design and Introduction to Epidemiology and Biostatistics. This course gives the student the chance to apply background knowledge and master research skills in an area of interest. <i>Prerequisites: PBHL 310, EPHD 300, EPHD 310 and completion of all, or all but one, of the core and concentration courses.</i></p>		
EPHD 365	Practicum in Epidemiology and Biostatistics	0.30; 3 cr.
<p>An individual program for students to gain research experience in epidemiology and biostatistics mainly through data collection and analysis of various types of data. Students work under the direction of a faculty advisor and may also work with an outside preceptor if appropriate. Field study sites may include the Ministry of Public Health, Ministry of Social Affairs, non-governmental agencies, UN agencies (UNICEF, ESCWA, UNFPA), and health services organizations. <i>Prerequisites: PBHL 355 and completion of all, or all but one, of the concentration courses.</i></p>		
EPHD 399	Thesis	6 cr.