PUBLIC HEALTH SCIENCES

All course are 3.0 credit units, except EPID 899 and 999 which are 6.0 credit units.

Mandatory M.Sc. Courses offered by the Department

EPID 801  Introduction to Epidemiology
This course provides foundational knowledge on how human evidence relevant to public health is created, assessed, and used, with a focus on epidemiologic methods. Topics include measures of health status; risk factors and associations with health outcomes; study design including descriptive, analytical, and intervention approaches; validity issues; critical appraisal; assessment of causation; ethics; and application of epidemiologic evidence in public health decisions. Three term-hours. Fall, every year. K. Aronson.

EPID 804  Intermediate Epidemiology
This course deals with advanced methods and issues in the design, conduct, analysis and interpretation of epidemiologic studies. The content focuses on observational study design and analysis and builds on epidemiologic principles presented in EPID 801. Data analysis will emphasize the application and interpretation of statistical concepts in epidemiologic research. Three term-hours, Winter, every year. W. King.

PREREQUISITE: EPID 801.

EPID 821  Essentials of Biostatistics
This course provides an overview of basic statistical concepts, principles, and techniques essential for public health and epidemiologic research. This course covers both descriptive and inferential statistics. Topics covered include measures of association, t-tests, regression, chi-square tests, analysis of variance, and some nonparametric methods. Emphasis is on understanding and interpreting fundamental statistical analyses from health research. Three term-hours, Fall, every year. Z. Lu. SAS Lab, Fall, A. Day/P. Norman

EPID 888  Master's Practicum
Under the guidance of the supervisor, students will carry out a practicum project in a health research group/site and practice bio statistical methods and data analysis or conduct methodology research in a bio statistical project. Students will summarize the results of the project in a written report that will be reviewed and orally defended.

Mandatory M.P.H. Courses Offered by the Department

IMPORTANT: Please NOTE EPID 801, EPID 802, EPID 803, EPID 805, EPID 806 and EPID 821 are all core courses for the 12-month accelerated program.

· EPID 801
· EPID 821, AND
EPID 802  Foundations in Public Health
This course provides an overview of theoretical and conceptual foundations of public health. It examines the social determinants of health and population health approaches to promote and protect health. It instills in students an understanding of the historical achievements, core values and ethical frameworks that guide public health action. Three term-hours. Fall every year. D. Hunter.

EPID 803  The Canadian Health System
The aim of this introductory course is to describe how health services are organized and delivered in Canada. Students who take the course will: 1) understand the inputs, delivery and outputs of the Canadian health system; 2) recognize and explain the factors that influence change in this system; and 3) consider current health policy issues in Canada. Three term-hours. Winter every year. S. Buttemer

EPID 805  Leading Evidence Informed Action
This course applies health promotion theories to the analysis and development of evidence based public health actions. Approaches to leading change are applied at the levels of individuals, organizations, community, society. Examples are drawn from programmatic and functional areas of public health practice to exemplify development of a multilevel and "health in all policies" approach to complex problems. Three term-hours. Winter every year. S. Buttemer

EPID 806  Applied Research Methods for Program Planning and Evaluation
This course provides an overview of social research methods and tools to assist students to complete the "evidence to action" program planning and evaluation cycle. Topics covered include defining the issue, using surveillance data, engaging the community, conducting a stakeholder analysis, survey methods, handling qualitative data, building logic models, choosing indicators, communicating the results, taking action. Three term-hours. Winter. Instructor TBD

EPID 807  Economic Evaluation of Healthcare Programs
This course is designed to allow students to become familiar with different types of economic evaluations in healthcare and when to employ particular types of economic evaluation. Topics covered will include; cost-effectiveness, cost-utility, cost-benefit, budget impact analyses, and policy decision-making. No prior economics background is required. Three term hours. Fall every year. A. Johnson.

EPID 810  Controlled Clinical Trials
This course will cover material relevant to the design and conduct of controlled clinical trials. Design topics will include methods used to achieve unbiased results with improved precision, such as adequate sample size, randomization, blinding, pre- and post-stratification, cross-over designs, placebos and the counting of relevant events. Attention will be given to the problems of conducting multi-centre clinical trials. Topics covered will include drafting of protocols, design of data forms, logistics of data flow, methods of follow-up, data management and quality control, periodic reporting, final data analysis and the production of final reports. Ethical issues and the role of randomized trials in clinical investigation will be discussed. Three term hours. Fall every year. H. Richardson.

EPID 815  Independent Study

EPID 817  Foundations of Cancer Control
This course is intended for graduate students, clinical fellows and postdoctoral fellows who are engaged or interested in cancer research. The course will focus on concepts and methodological issues central to the conduct of epidemiologic studies of cancer etiology and control. Topics
will include: an introduction to basic epidemiologic concepts; biologic and clinical concepts central to the investigation of cancer; study design; clinical epidemiology; molecular epidemiology; and cancer control and prevention. Not offered 2021-22.

**EPID 819  Clinical Epidemiology**
This course will demonstrate the way in which epidemiological principles guide the practice of medicine and the design of clinical research. Topics include how to select and apply the correct design for a study addressing a clinical question, how to evaluate the quality of clinical publications and research proposals, how to prepare a clinical research proposal and how to synthesize clinical evidence.
PREREQUISITE: EPID 801 and EPID 821 or permission of instructor

**EPID 828  Infectious Diseases**
This course provides a foundation in infectious disease epidemiology. Principles and methods related to infectious disease biology, outbreak detection and investigation, and the methodological, analytical, and diagnostic tools are covered. Specific infectious diseases that pose contemporary challenges in public health and/or have national or global public health impact are discussed. Three term hours. Winter every year. S. Brogly.
PREREQUISITE: EPID 801 or permission of the instructor.

**EPID 829  Foundations of Global Health**
Students will be exposed to various global health concepts and be trained to work through potential solutions in a public health context. The course will be taught through formal lecture, seminar and small group learning, and online modules. Topics may include health, public health, and development; Aboriginal health; health systems and policies; Canada's role in global health and social justice; and special populations. Three term hours. Fall every year. TBD

**EPID 831  Chronic Disease Epidemiology**
This course will provide an overview of the epidemiology of some of the leading non-infectious causes of morbidity and mortality in Canada and will highlight the key methodological considerations for the study of each disease or health problem. Three term hours. Winter every year. K. Aronson
PREREQUISITES: EPID 801 & EPID 821 or equivalents with permission of course coordinator

**EPID 832  Mental Health/Critical Inquiry**
This course will provide students with in-depth substantive knowledge about the evolution of health issues that have shaped policy and mental health services. Three term hours. Winter. H. Stuart.
PREREQUISITES: EPID 801 or permission of course instructor

**EPID 835  Environmental Public Health**
This course provides students with a foundation for understanding, assessing and mediating environmental exposures. Methods for assessing and communicating about exposures, risks and standards in air, water, soil and food are introduced. Case studies of managing hazardous exposures are reviewed. Environmental health policy implications of global climate, energy use and disaster planning are explored. Three term hours. Fall every year. H. Richardson.
PREREQUISITE: EPID 801, EPID 821 or equivalent, or permission of instructor.

**EPID 836  Qualitative Health Research Methods**
This course provides foundational instruction in qualitative research methodology for students in the public health sciences, including theoretical basis, study design, research ethics, sampling and recruitment, data collection, data analysis, and disseminating research findings. Topical areas may include ethnography, grounded theory, phenomenology, participatory research, and other areas. Winter every year. B. Stoner.

**EPID 837  Health Services Research**
This course introduces health services research methods as they are applied to routinely collected health data. It covers methodologic approaches for assessing healthcare effectiveness, quality, and access. The course also provides an introduction to the Ontario ICES data holdings and the conduct of health services research using those data. Three term hours. Fall every year. TBD

**Mandatory Courses offered by the Department for Ph.D. Program**

**EPID 823**
(NO: Ph.D. students who have already completed Advanced Methods in Biostatistics [EPID 823] as part of their M.Sc. program in Epidemiology at Queen's University may be exempt from this requirement)

AND

**EPID 901  Advanced Epidemiology**
This course provides in-depth integration of advanced concepts in epidemiology, with theory and examples, including causation and causal inference, study design and conduct, alternate designs, confounding, effect modification, internal and external validity, misclassification, source populations, statistical power and sample size, epidemiologic data analysis and interpretation, meta-analysis and selected specific research areas. This is an advanced course intended primarily for Ph.D. students. Sessions consist of lectures, seminars, student presentations and discussions. Three term-hours. Fall every year, W. King

queensu.ca/academic-calendar
PREREQUISITES: EPID 801, EPID 804, EPID 821 and EPID 822 or equivalent from other institutions.

EPID 902 Advanced Public Health Research
This course provides a conceptual and historic view of the Public Health Sciences, as well as a look at contemporary issues in Public Health research ethics, research methodology and knowledge translation. Guided each year by student interests and advanced training needs, the course delves into specific substantive public health research areas including for example: chronic disease, environmental health, infectious disease, injury and disability, maternal and child health, occupational health, humanitarian contexts, Indigenous health and/or health services research. Three term hours. Fall every year, B. Stoner/H. Ouellette-Kuntz

Courses Offered outside the Department for M.Sc. and M.P.H. programs
Selected graduate courses from other Departments can be taken as electives upon permission of the Instructor, Program Director, Department and School of Graduate Studies.