

PUBLIC HEALTH - EPIDEMIOLOGY (PHEP)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (https://csprd.louisville.edu/psp/ps_class/EMPLOYEE/PSFT_CS/c/COMMUNITY_ACCESS.CLASS_SEARCH./x/?state=62dab551a0d600a5e8237359c50704e59007&duo_code=sjUx20STJ21LjWVEu0371YBJElmfypqov)

500-level courses generally are included in both the undergraduate- and graduate-level course listings; however, specific course/section offerings may vary between semesters. Students are responsible for ensuring that they enroll in courses that are applicable to their particular academic programs.

Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (<https://louisville.edu/bursar/tuitionfee/university-fees/>).

PHEP 501. Introduction to Epidemiology 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.

Description: Basic epidemiological methods are presented: terminology; study design; issues of contemporary practice; basic skills for interacting with epidemiologists, reading disease control literature, and drawing on epidemiological concepts.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 602. Introduction to Epidemiologic Methods 3 Units

Term Typically Offered: Fall, Spring, Summer

Prerequisite(s): PHEP 501 and enrollment in the School of Public Health and Information Sciences.

Description: This course is focused on the design, performance, and analysis of epidemiological research studies. Classes will be conducted as lectures with sample analyses. The course aims to provide a thorough orientation to the fundamentals of the design, performance, and analysis of epidemiological research studies.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 604. Epidemiology of Infectious Disease 2 Units

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.

Description: This course will discuss the epidemiology and prevention of infectious disease.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 605. Research in Infectious Disease 1 Unit

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.

Corequisite(s): Concurrent enrollment in PHEP 604.

Description: This course provides students with an opportunity to expand the content of epidemiology of infectious disease with a research project.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 606. Genetic and Molecular Epidemiology 3 Units

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.

Description: The course examines basic principles of Mendelian inheritance in humans and the fundamentals of genetic action in relation to disease etiology.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 607. Epidemiology of Cancer 2 Units

Term Typically Offered: Spring Only

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences and successful completion of PHEP 616 or PHEP 622.

Description: This course reviews the epidemiology of selected cancers and the relationship between environmental and genetic factors in cancer etiology. The roles of risk assessment and screening for cancers in selected organ systems are also addressed.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 608. Research in Cancer 1 Unit

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.

Corequisite(s): Concurrent enrollment in PHEP 607.

Description: This course provides students with an opportunity to expand the content of epidemiology of cancer with a site-specific, directed research experience.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 609. Epidemiology of Cardiometabolic Disease 2 Units

Term Typically Offered: Spring Only

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences and successful completion of PHEP-616 or PHEP-622.

Description: This course focuses on the epidemiology of metabolic syndrome, and related disorders, including hypertension, dyslipidemia, atherosclerosis, heart disease, stroke, diabetes, kidney disease, and dementia.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

PHEP 610. Research in Cardiovascular Disease 1 Unit

Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.

Corequisite(s): Concurrent enrollment in PHEP 609.

Description: This course provides students with an opportunity to expand the content of epidemiology of cardiovascular disease with a research project.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

- PHEP 611. Nutritional Epidemiology** **3 Units**
Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.
Description: This course examines epidemiologic methodology in relation to nutritional measures and the epidemiology of nutritional diseases and disorders.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 612. Statistics for Epidemiologic Research and Practice** **3 Units**
Term Typically Offered: Fall Only
Prerequisite(s): Enrollment in the MS program in Epidemiology.
Description: This course introduces students to essential statistical concepts and problem-solving skills for epidemiologists. In this course, students will conduct statistical analyses and present results for practical or research settings.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 613. Epidemiology of Aging and Disability** **3 Units**
Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.
Description: This course covers the principles and methods of epidemiology as applied to the study of aging. Major research issues in aging epidemiology and methods to study them will be presented.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 614. Introduction to Clinical Epidemiology** **2 Units**
Term Typically Offered: Fall, Spring
Prerequisite(s): Enrolled in the MS in Clinical Investigation Sciences, the Certificate in Clinical Investigation Sciences, or the MS in Epidemiology.
Description: This course introduces the student to the basic concepts of clinical epidemiology, including epidemiological study designs and methods applied in clinical research for determining the sensitivity and specificity of diagnostic criteria, efficacy of treatments and interventions, and evaluating prognosis and outcomes.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 615. Foundations of Global Maternal and Child Health** **3 Units**
Term Typically Offered: Spring Only
Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.
Description: This course provides an overview of global maternal and child health (MCH), including both international and U.S. contexts. The course introduces the main components of MCH, MCH history, programs and policies, data sources, epidemiologic issues, and specific MCH challenges for the future. The primary goals of the course are to introduce masters and doctoral students to the issues that affect the health of women and children. This course will incorporate various theories and perspectives, such as the life course perspective; human growth and development; biological, environmental, and social factors related to maternal and child health. This is a survey course that will cover MCH theory, policy, programs, epidemiology, child growth and development, maternal health, and environmental aspects of health. Cross-cutting themes will include socioeconomic aspects, data and epidemiology, and policy.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 616. Disease Surveillance and Health Statistics** **3 Units**
Prerequisite(s): PHEP 501 and enrollment in the School of Public Health and Information Sciences.
Description: This course reviews the basic concepts and terminology of disease surveillance and covers the spectrum of health statistics, including population censuses, health surveys and disease reporting systems.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 617. Field Epidemiology** **3 Units**
Prerequisite(s): PHEP 501 and enrollment in the School of Public Health and Information Sciences.
Description: This course focuses on the practical aspects of doing field epidemiology.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 618. Epidemiologic Methods I** **4 Units**
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): Enrollment in the MS in Epidemiology program.
Description: This course provides an intensive review of epidemiologic methods used in a variety of study designs.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 619. Biology of Disease in Populations** **3 Units**
Term Typically Offered: Spring Only
Prerequisite(s): Enrolled in the MS program in Epidemiology and successful completion of PHEP 618 and PHEP 612, or permission of instructor.
Description: This course provides a broad overview of the biology and basic anatomy, biochemistry, physiology, and pathophysiology of common acute and chronic diseases and conditions from the epidemiologic perspective.
 For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

- PHEP 620. Environmental and Occupational Epidemiology** 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): Completion of or concurrent enrollment in PHEP-602 Epidemiological Methods or enrolled in the MS in Epidemiology program.
Description: This course offers an overview of selected topics in environmental and occupational epidemiology and methods for studying environmental and occupational determinants of disease.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 621. Statistical Foundations for Epidemiology** 4 Units
Term Typically Offered: Fall Only
Prerequisite(s): Enrollment in the PhD in Public Health Sciences specialization in Epidemiology program.
Description: This course introduces essential statistical concepts and foundations for epidemiologists. It is designed for epidemiology students to exercise statistical theory and computer programming using statistical software as applied to epidemiologic problem-solving.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 622. Population Pathology** 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology.
Description: This course introduces students to the physiologic measures and biomarkers that are used by public health researchers and practitioners to assess the health status of populations.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 623. Theoretical Foundations of Epidemiology** 3 Units
Prerequisite(s): Enrollment in the MS program in Epidemiology or the Public Health Sciences PhD program specialization in Epidemiology.
Description: This course provides an overview of the history of epidemiology, the development of theory, study designs and methods, and ethical and legal issues in the translation of epidemiologic findings into public health policy.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 624. Methods in Reproductive and Perinatal Epidemiology** 3 Units
Prerequisite(s): Successful completion of, or concurrent enrollment in, PHEP 501.
Description: This course allows students to pursue foundational studies in the epidemiology of reproduction and maternal/child health with an emphasis on the biology of reproduction, epidemiological studies, and maternal and perinatal health.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 625. Child Health & Development** 3 Units
Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.
Description: This course focuses on the core processes of human health and development from infancy through adolescence in global contexts covering the developed and developing worlds. This course covers developmental theories, issues and research findings related to physical growth and cognitive, emotional, and social development. This course also covers evaluation and efficacy of popular early intervention programs and policies designed to enhance development in at risk populations of children. Cross-cutting themes will include socioeconomic and cultural aspects of growth and development, epidemiology of disease, data sources, and policy considerations.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 626. Introduction to Social Epidemiology** 3 Units
Term Typically Offered: Occasionally Offered
Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.
Description: This course is an introduction to Social Epidemiology, with an emphasis on the theoretical underpinning of social epidemiology and methodologic issues, including definition/measurement of social constructs, appropriate research designs, and analytic approaches. Topics used as lens for understanding social epidemiologic theory and methods focus on global and domestic maternal and child health.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 627. Survey Research Methods** 3 Units
Term Typically Offered: Fall Only
Description: This course will provide students with a comprehensive understanding of survey research methods. It will focus on all aspects of the survey research process, from sampling, design of instruments prior to data collection, including online instruments, and including analysis of survey data and reporting. Students will learn about sources of bias, psychometrics (assessing validity and reliability), measurement theory, and ethical issues. They will also gain first-hand experience of survey analysis using applied techniques.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 628. Computational Epidemiology with SAS** 3 Units
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): Enrolled in the MS program in Epidemiology and Population Health and successful completion of PHEP 618 and PHEP 612, or permission of instructor.
Description: This course provides an overview of data management using SAS statistical software, as well as common statistical methods used in epidemiology with hands-on application to existing or simulated datasets under a variety of study designs.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

- PHEP 629. Computational Epidemiology with R** 3 Units
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): Enrolled in the MS program in Epidemiology and Population Health and successful completion of PHEP 618 and PHEP 612, or permission of instructor.
Description: This course provides an overview of data management using R statistical software, as well as common statistical methods used in epidemiology with hands-on application to existing or simulated datasets under a variety of study designs.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 630. Study Coordination Skills for Epidemiologic Research** 3 Units
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): Enrolled in the MS program in Epidemiology and Population Health and successful completion of PHEP 618 and PHEP 612, or permission of instructor.
Description: This course will provide students with an introduction to the basic and skill-based practical methods needed for the coordination and management of a population-based epidemiologic research study. This will include research ethics and associated Internal Review Board (IRB) submissions and amendments, coordination and tracking of study processes and progress, instruments for data collection, and other skills necessary for the management of a successful epidemiologic research study.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 632. Epidemiologic Methods II** 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology and successful completion of or concurrent enrollment in PHEP 621.
Description: Prerequisites or corequisites: PHEP 621 This is an intermediate course in epidemiologic methods with a focus on epidemiologic measures of disease occurrence and measures of association and their confidence intervals, study designs including cross-sectional, randomized control trials, cohorts, and case-control studies. Sample size and power calculations are also addressed for designing epidemiologic studies.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 633. Epidemiologic Methods III** 3 Units
Term Typically Offered: Spring Only
Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology and successful completion of PHEP 621 and PHEP 632.
Description: This course provides an intensive orientation and assessment of epidemiologic biases and epidemiologic concepts with hands-on application to existing or simulated datasets under a variety of epidemiologic study designs.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 647. Epidemiology Data Management & Analytics Lab** 2 Units
Term Typically Offered: Spring Only
Prerequisite(s): PHEP 602 or concurrently.
Description: Graduate student in public health services will learn to analyze epidemiologic data using the Epi info and SAS statistical packages for Windows.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 650. Advanced Topics in Epidemiology** 1-3 Units
Prerequisite(s): Enrollment in the School of Public Health and Information Sciences.
Description: The purpose of this course is to provide an opportunity to address issues in Epidemiology not covered in the regularly offered curriculum.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 655. Emerging Issues in Epidemiology** 3 Units
Prerequisite(s): PHEP 501 and enrollment in the School of Public Health and Information Sciences.
Description: This course is an overview of emerging topics in epidemiology. Emphasis is on the role that practicing epidemiologists have played or are playing in current public health events.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 666. Master's Independent Study in Epidemiology and Population Health** 1-6 Units
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): Enrolled in the MS in Epidemiology or the MPH concentration in Epidemiology and Population Health.
Description: Course allows master's students to pursue advanced study with faculty guidance on a topic related to epidemiology and population health.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)
- PHEP 701. Advanced Epidemiologic Methods** 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology and successful completion of PHEP 621, PHEP 632, and PHEP 633.
Description: This course provides an intensive review of common and advanced statistical methods used in epidemiology with hands-on application to existing or simulated datasets under a variety of study designs.
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

<p>PHEP 702. Epidemiologic Research Management 4 Units Term Typically Offered: Fall Only Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology and successful completion of PHEP 621, PHEP 632 and PHEP 633. Description: This course provides a comprehensive introduction to the practical methods necessary for conducting epidemiologic research including study design, regulations, databases, sampling, recruitment and tracking, instrument design, and data quality control. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>PHEP 777. Dissertation Research 3 Units Prerequisite(s): Completion of Doctoral Qualifying Examination for Public Health Sciences PhD program with specialization in Epidemiology. Description: This course is for mentored dissertation research in the PhD Program in Epidemiology. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
<p>PHEP 703. Computational Epidemiology 3 Units Term Typically Offered: Fall, Spring, Summer Prerequisite(s): PHEP 621, PHEP 623, PHEP 618, and PHEP 701; instructor permission is required for MS Epidemiology students. Description: This course provides an intensive review of common and statistical and machine learning techniques used in computational epidemiology with hands-on application to existing or simulated datasets under a variety of study designs. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>PHEP 778. Doctoral Independent Study in Epidemiology and Population Health 1-6 Units Term Typically Offered: Fall, Spring, Summer Prerequisite(s): Enrollment in the PhD program in Public Health Sciences with specialization in Epidemiology. Description: Course allows doctoral students to pursue advanced study with faculty guidance on a topic related to epidemiology and population health. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
<p>PHEP 750. Seminar I in Epidemiology 3 Units Term Typically Offered: Spring Only Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology. Description: This course provides doctoral students the opportunity to engage with faculty as junior-peers and discuss a variety of topics related to the professional practice of epidemiology. The content of this course will vary from semester to semester based on the instructor and needs of the students. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	
<p>PHEP 751. Seminar II in Epidemiology 3 Units Term Typically Offered: Fall Only Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology and successful completion of PHEP-750 Seminar I in Epidemiology. Description: This course provides doctoral students the opportunity to engage with faculty as junior-peers and discuss a variety of topics related to the professional practice of epidemiology. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	
<p>PHEP 752. Seminar III in Epidemiology 1 Unit Term Typically Offered: Spring Only Prerequisite(s): Enrollment in the Public Health Sciences PhD program with specialization in Epidemiology and successful completion of PHEP 751 Seminar II in Epidemiology. Description: This course provides doctoral students the opportunity to engage with faculty as junior-peers and discuss a variety of topics related to the professional practice of epidemiology. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	