

Department of Epidemiology

Spring 2018 Course Offerings



PHC 6000: Epidemiology Methods I

Instructor: Lusine Yaghjian, MD, MPH, PhD

Credits: 3

Thursdays, 9:35a-12:35p

Grading Scheme: Letter

COM C1-4

Prerequisites: PHC 6001 and PHC 6050 or PHC 6052, or permission from the instructor.

This course provides an understanding of the methods of epidemiological study designs and their analyses, including issues of bias, confounding, and effect modification. The goal of this class is to provide a strong background in analytic reasoning and research design, study execution, analysis, and result interpretation.



PHC 6001: Principles of Epidemiology in Public Health

Instructor: Kelly K. Gurka, MPH, PhD

Credits: 3

Online

Grading Scheme: Letter

Prerequisites: None

This course is an introduction to epidemiology for students majoring in any aspect of the health sciences. This course presents the principles and methods of the epidemiological investigation of both infectious and non-infectious diseases. The purpose of this course is to equip students with the necessary knowledge and skills to explain the place of epidemiology in the general health thinking and to communicate and apply the basic principles of epidemiology.



PHC 6003: Epidemiology of Chronic Disease

Instructor: David S. Sheps, MD, MSPH

Credits: 3

Tuesdays, 3:00p-6:00p

Grading Scheme: Letter

HPNP 1102

Prerequisites: PHC 6001 and PHC 6052 or PHC 6050, or permission from the instructor.

This course is an overview of the epidemiology of chronic diseases and disabilities prevalent in various populations; it includes the introduction of contemporary methods for surveillance, including risk factors, etiology, and changes over time.



PHC 6008: Epidemiology and Prevention of Cardiovascular Diseases

Instructor: David S. Sheps, MD, MSPH, and Thomas A. Pearson, MD, MPH, PhD

Credits: 2

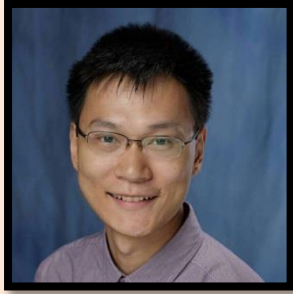
Mondays, 3:00p-4:55p

Grading Scheme: Letter

HPNP 1102

Prerequisites: GMS 6800, or permission from the instructor.

The purpose of this course is to enable the participant to become familiar with the distribution and determinants of cardiovascular diseases in populations and the research methods used in this field of study. Students and faculty will review the population burden of the main categories of cardiovascular diseases, the factors that influence their distribution and clinical outcomes, and the methods used in public health-oriented and epidemiologic research of subclinical and clinical cardiovascular disease and of vascular health.



PHC 6194: Spatial Epidemiology

Instructor: Hui Hu, PhD

Credits: 3

Wednesdays, 12:50p-3:50p

Grading Scheme: Letter

HPNP G-108

Prerequisites: PHC 6000, PHC 6011, PHC 6052, and PHC 6053 (or equivalent), or permission from the instructor

This course introduces the concepts and methods of spatial epidemiology. Students will gain hands-on experience in Geographic Information Systems (GIS) and spatial data analyses. Recent developments in location intelligence applied to healthcare and public health research will also be introduced.



PHC 6370: Public Health Biology

Instructor: Cindy Prins, PhD, MPH, CIC, CPH

Credits: 3

Mondays, 3:00p-4:55p; Wednesdays, 9:35a-10:25a

Grading Scheme: Letter

HPNP G-201

Prerequisites: None

This course will offer an understanding of the biological basis of public health issues. It is intended for students in all concentration areas of the Public Health Program regardless of their backgrounds in the biological sciences. Lectures will include the appropriate background material in biology, chemistry, biochemistry, molecular biology, genetics, and immunology to allow students to understand the biological mechanisms of disease prevention and progression at a molecular level. Specific topics will include diseases and conditions that are most frequently discussed in current public health settings, including infectious diseases, genetic illnesses, cancer, environmental illnesses, and vaccines.



PHC 6937: Topics in Precision Medicine and Public Health Informatics

Instructor: Mattia Prospero, MEng, PhD

Credits: 1

Every other Monday, 10:30a-12:30p

Grading Scheme: Letter

CTRB 4217

Prerequisites: None.

This course covers topics in precision medicine and public health informatics. The course was inspired by the White House 2015 initiative in precision medicine which stated that its mission is "to enable a new era of medicine through research, technology, and policies that empower patients, researchers, and providers to work together toward development of individualized care." Students will learn how the initiative is being concretized since its inception, by studying real-world examples, and deepening on both the methodological and translational aspects.



PHC 7000: Epi Seminar II: Critical Evaluation, Research Proposals, and Methods

Instructor: Krishna Vaddiparti, PhD, MPE, MSW

Credits: 2

Tuesdays, 8:30a-10:25a

Grading Scheme: Letter

CTRB 4217

Prerequisites: PHC 6001 and PHC 6000, one semester of biostatistics, and PhD student status in epidemiology, or permission from the instructor.

This course is taken in the second year of the epidemiology PhD program curriculum. The seminar series is designed to introduce students to a range of advanced epidemiologic concepts and research methods to help PhD students advance their dissertation ideas and obtain the skills needed for a PhD in epidemiology.

PHC 7007: Cancer Epidemiology

Instructor: Volker Mai, PhD, MPH

Credits: 3

Mondays, 11:45a-12:35p; Wednesdays, 10:40a-12:35p

Grading Scheme: Letter

HPNP G-105

Prerequisites: PHC 6001 and PHC 6050 or PHC 6052, or permission from the instructor.

This course is designed to help students develop the interdisciplinary skills required for evaluating various existing and hypothetical public health interventions aimed at reducing the burden of cancer in the US and worldwide. The course will familiarize students with various exposures associated with the risk of developing cancer with emphasis on a population perspective. While a focus will be on opportunities for prevention; we will explore cellular mechanisms contributing to the development of various cancers and describe associated pathologies. Cancer epidemiology is taught in a combined lecture and discussion format.



PHC 7017: Advanced Epidemiologic Methods III

Instructor: Xinguang (Jim) Chen, MD, PhD

Credits: 3

Fridays, 9:35a-12:35p

Grading Scheme: Letter

HPNP G-105

Prerequisites: GMS 6800 and GMS 6810, or permission from the instructor.

This advanced course will focus on the application of six advanced analytical and modeling methods through lectures, actual data analysis, student presentation and discussion to expand the methodology inventory by introducing advanced and new statistical and modeling methods to address measurement, descriptive, comparative, associative and causal relations in modern epidemiology.



PHC 7038: Psychiatric Epidemiology

Instructor: Catherine W. Striley, PhD, MSW, ACSW, MPE

Credits: 3

Thursdays, 1:55p-4:55p

Grading Scheme: Letter

COM C2-33

Prerequisites: PHC 6000 and PHC 6011, or permission from the instructor.

This advanced epidemiology methods course in Psychiatric Epidemiology will cover concepts, history, measures, methods and analytic techniques to study the risks, prevalence and incidence, course, comorbidities and consequences of major mental disorders (mood and anxiety disorders, schizophrenia, personality disorders, alcohol and drug abuse and dependence). Psychiatric epidemiology studies in general and specific populations internationally will be discussed for their methods, measures and findings.



PHC 7065: Critical Skills in Data Manipulation for Population Science

Instructor: Hui Hu, PhD

Credits: 2

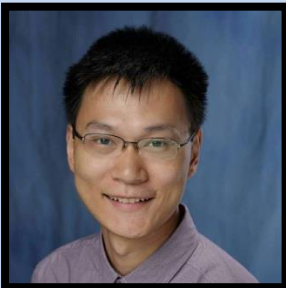
Mondays, 12:50p-2:45p

Grading Scheme: Letter

HPNP G109

Prerequisites: PHC 6052 and PHC 6000 or the equivalent and PhD student status, or permission from the instructor.

This course focuses on providing basic knowledge and skills needed in data manipulation for population science. Included will be: data context and concepts; relational databases; data collection and extraction; Parallel manipulation of massive datasets; NoSQL systems and concepts. The course is designed for advanced students to learn the “code of best practice” for data engineering in population science.





PHC 7902: Scientific Writing for Peer Reviewed Publications for Population Science

Instructor: Linda B. Cottler, PhD, MPH, FACE

Credits: 1

Mondays, 6:00p-7:30p

Grading Scheme: Letter

CTRB 4240C

Prerequisites: PhD student status, or permission from the instructor.

This course will prepare students to perform peer review and to think critically. In weekly class discussion sessions, students will review each other's work and bring work to edit and share. Feedback will be given by student peers and the course instructor. The principal goals of this Epidemiology Writing Circle are to: 1) improve the student's academic writing style, 2) write, complete, and submit papers – with at least one as a first author, and 3) edit colleague's manuscripts, regardless of topic area.