Epidemiology, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The conduct of epidemiologic research involves the study of the distribution of disease and/or injury in human populations. The M.S. in Epidemiology degree is designed specifically for students interested in in-depth training and knowledge of the research techniques appropriate to conducting epidemiologic studies in a particular concentration of health research. Master’s-level epidemiologists may work in applied settings conducting disease surveillance and outbreak investigations or in research settings developing and evaluating research hypotheses generated to understand the effects of behavioral, biological, environmental, and social factors on human health. Since Epidemiology is the principal science underlying disease prevention and control programs, this training is also a basic component for other degree and training programs in public health and preventative medicine.

Time Limit for Degree Completion: 3 years

Campus Location: Main, with courses also offered at the Center City and Health Sciences Center campuses

Full-Time/Part-Time Status: The program is designed to accommodate both full-time and part-time students. While the time limit for degree completion is set at 3 years, full-time students are expected to earn their degree within 2 years; part-time students are granted the additional year.

Interdisciplinary Study: Students are encouraged to develop programs of study that are interdisciplinary in nature, involving coursework across departments, schools, and colleges. Research in affiliated units is encouraged.

Affiliation(s): Research affiliations of the Graduate Faculty of the M.S in Epidemiology program include the Center for Asian Tobacco Control; the Department of Nursing; the Fox Chase Cancer Center; Temple University School of Medicine and Children's Medical Center; and Temple University School of Podiatric Medicine. Additional research opportunities include the Institute for Survey Research, the Social Science Data Library, and the Testing and Measurement Center.

Study Abroad: Temple University has campuses in Tokyo, London, and Rome where independent research can be pursued under advisement.

Accreditation: The program is accredited by the Council on Education for Public Health (CEPH).

Areas of Specialization: Areas of specialization can be dictated through the area of concentration pursued by the student in her/his thesis research.

Job Prospects: Graduates of the M.S in Epidemiology program are prepared to be faculty members or researchers in colleges and universities or to hold research-related positions in a wide range of organizations. Graduates are employed in health systems, hospitals and clinics, public health departments, and public health and other healthcare and human service agencies. Some graduates are employed by schools at the local, state, and federal levels. Graduates also work in pharmaceutical companies, non-profit and for-profit corporations, foundations, and consulting firms.

Non-Matriculated Student Policy: Students are permitted to take up to 6 s.h. of coursework before matriculation. If accepted into the program, those courses may be applied toward the degree requirements. Course selection should be made in consultation with an advisor, and students should be aware that completion of coursework does not ensure admission into the program.

Financing Opportunities: Teaching Assistants (TAs) and Research Assistants (RAs) provide 20 hours of service per week. TAs may be assigned to assist in the teaching of courses, including grading examinations and papers or teaching laboratory sections. Some TAs independently teach undergraduate courses. RAs perform supervised research activities. Both assistantships carry a minimum stipend and full tuition remission for up to 9 credits per term. Applications for assistantships are available from the Department of Public Health and must be submitted by January 15 for the following Fall term. The application requires a statement of previous teaching and/or research experience, areas of interest, and future goals; unofficial copies of transcripts; and a curriculum vitae. The department makes offers of assistantships following admission to the program. Applications should be addressed to:

Dr. Alice J. Hausman
Chair of the Department of Public Health
Temple University
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091

Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
All applicants to the M.S. in Epidemiology program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://portal.sophas.org/. A supplemental application is also required to be submitted directly to Temple University at http://www.temple.edu/apply/common/appcheck.asp. Late applications may be considered for admission.

**Letters of Reference:**
*Number Required: 3*

*From Whom:* Letters of recommendation should be obtained from college/university faculty members familiar with the applicant's academic competence and, if appropriate, research supervisors or mentors.

**Coursework Required for Admission Consideration:** Proficiency in statistical programming and a minimum of 6 credits of undergraduate quantitative and/or analytical methods (statistics, research design, etc.) are required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Approximately 500-1,000 words include your interest in the M.S. in Epidemiology program; your research area of interest, research goals and experience, and current quantitative skills; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**
*GRE:* Required. Minimum scores should be 500 (old test) on both the verbal and quantitative sections or, on the new test, 153 on the verbal section and 144 on the quantitative section.

*TOEFL* (international applicants only): 79 iBT or 550 PBT minimum

**Resume:** Current resume or curriculum vitae required.

**Interview:** An interview may be required.

**Test Waivers:** Postdoctoral applicants who hold a terminal degree from an accredited institution may request a waiver of the GRE.

## Program Requirements

**General Program Requirements:**
*Number of Credits Required Beyond the Baccalaureate:* 36, including 30 credits of coursework and 6 credits of master's thesis

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBHL 5001</td>
<td>Fundamentals of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PBHL 5002</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>PBHL 5201</td>
<td>Epidemiological Research Methods I</td>
<td>3</td>
</tr>
<tr>
<td>PBHL 8001</td>
<td>Research Design in Public Health</td>
<td>1-3</td>
</tr>
<tr>
<td>PBHL 8202</td>
<td>Epidemiological Research Methods II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 13-15

**Culminating Events:**
*Thesis:* The master's thesis documents the student's independent research and demonstrates mastery of her/his primary area of interest. Thesis research is conducted under the direct supervision of an academic advisor. The specific topic for research should be of current interest in the professional community. After a research topic is selected, the student performs preliminary background research. A thesis proposal is then submitted describing the plan for further steps toward completion of the proposed research. The student may continue the research only after the proposal is approved by the committee. Presentation of methods and study results is conducted upon completion of the thesis.

## Contacts

**Program Web Address:**
http://cph.temple.edu/publichealth/degrees-offered-graduate-programs/master-science-epidemiology

**Department Information:**
Dept. of Public Health
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
dnelson@temple.edu
Submission Address for Application Materials:
https://portal.sophas.org/

Department Contacts:

Admissions:
Deborah Nelson, Ph.D.
dnelson@temple.edu
215-204-8726

Program Director:
Deborah Nelson, Ph.D.
dnelson@temple.edu
215-204-8726

Chairperson:
Alice J. Hausman, Ph.D.
hausman@temple.edu
215-204-5112

Courses

PBHL 5001. Fundamentals of Public Health. 3 Credit Hours.
This course encompasses historical and sociocultural approaches to understanding public health and bioethics. Emphasis is on understanding public health systems from the dawn of history to the 21st century and the evolution of bioethical issues including the application of bioethical principles, regulations and strategies in research and health practice. This seminar emphasizes the integration of conceptual and experiential learning. This is reflected in the course design and in teaching and learning processes.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5002. Biostatistics. 3 Credit Hours.
Introduction to applied biostatistics as used in research in public health. Statistical methods used for descriptive and analytic research, inferential statistics, surveillance systems and statistical software used in public health.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5003. Spatial Analysis in Public Health. 3 Credit Hours.
This course will create a methodological framework for approaching public health issues within the context of spatial investigations of health and disease, both internally via perceptual mapping, and externally via geographic information systems (GIS). This integrative discipline provides the opportunity for students to draw upon the concepts and techniques of sound public health and add a spatial perspective to their analysis.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5004. Understanding Stress and Change. 3 Credit Hours.
This course focuses on the impact of stress on physical and emotional health and quality of life. It focuses on the causes, types, and physiology of stress and stress reduction methods, including relaxation, biofeedback, fear control, cognitive restructuring, and social psychological interventions in community settings.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
PBHL 5005. Intl Hlth Studies Abroad. 6 Credit Hours.
Students will be able to: Articulate a historical and cultural understanding of Costa Rican approach to health and medical care. Identify the major health concerns of the Costa Rican population in rural and urban settings and the major strides taken to improve health. Conduct limited fieldwork with rural communities in teams of 3 to 4 persons or conduct community health field research among the graduate students. Write professional paper and presentation on one of the health issues in Costa Rica based on your experience. While previous Spanish language proficiency is not required, some Spanish language ability is essential for students to gain the maximum understanding during the program. Therefore, students during the first two weeks of the program take intensive Spanish language training in Costa Rica at the Institute for Central American Development Studies (ICADS). The third week we travel to other regions within Costa Rica to examine different health conditions depending on that year’s topics. The fourth and fifth weeks students live and work in rural communities and help to facilitate health education workshops on different activities such as: diabetes, nutrition, HIV/AIDS prevention education, women’s health, child health care issues, first aid education, fitness and exercise, backyard gardening, etc.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5006. Political and Economic Aspects of Health. 3 Credit Hours.
The course provides an introduction to the structure and delivery of healthcare in the United States, as well as an introduction to health policymaking. In addition to required reading materials, students will be asked to examine current health policies at the local, state and/or national level.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5007. Principles of Emergency Management. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of public health preparedness and response for all hazards emergency management. It will enable health care and allied health professionals, public health professionals, and emergency responders to work together to plan and respond effectively to both natural and man made disasters. The course will introduce students to the identified core competencies of emergency health preparedness for public health professionals which include: functional roles, communication, resource identification, problem solving, and evaluation. The issues of mental health and special populations will be introduced in an emergency management context. Students will utilize problem based learning by analyzing actual disaster events and applying the theories, principles, and practice of preparedness, response, mitigation, and recovery.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5008. Seminar in International Health. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of public health preparedness and response for all hazards emergency management. It will enable health care and allied health professionals, public health professionals, and emergency responders to work together to plan and respond effectively to both natural and man made disasters. The course will introduce students to the identified core competencies of emergency health preparedness for public health professionals which include: functional roles, communication, resource identification, problem solving, and evaluation. The issues of mental health and special populations will be introduced in an emergency management context. Students will utilize problem based learning by analyzing actual disaster events and applying the theories, principles, and practice of preparedness, response, mitigation, and recovery.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5009. Risk Communication & PH. 3 Credit Hours.
The goal of this course is to demonstrate how health communication professionals can create and implement risk communication plans related to either possible or actual public health hazards (anything that can cause morbidity or mortality). This course focuses on risk communication within the context of terrorism, infectious disease outbreaks and health problems that occur because of natural disasters. It will include core principles of risk communication, examine special challenges of risk communication with diverse audiences and prepare students to create a crisis and emergency risk communication plan.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5013. Global Environmental Health. 3 Credit Hours.
This is an intermediate-level graduate course for those interested in environmental health and global health. Other graduate students may attend the course with the instructor’s permission, provided they meet the course prerequisites. This course does not meet the core requirement for environmental health in the MPH program.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5103|Minimum Grade of B-|May not be taken concurrently.
PBHL 5014. Leadership and Management in Public Health Organizations. 3 Credit Hours.
This course covers leadership and management in public health practice. The course will review leadership styles, moving through the "leadership pipeline" to help students understand the basic underpinnings of leadership. Within that context, the course will explore the essentials of applying strong leadership practices in public health organizations.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5015. Public Health Nutrition. 3 Credit Hours.
This course explores nutrition as a science and platform for public health promotion and disease prevention. The fundamental contribution of nutrition to public health as well as the potential of food and nutrition policy, programs, and interventions to reduce risk and promote health will be examined.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5011. Epidemiology. 3 Credit Hours.
Introduction to descriptive and analytical epidemiology. Concepts and methods used in public health with emphasis on the calculation and interpretation of indices of community health, morbidity and mortality rates, age-adjustment, risk ratios and sensitivity and specificity and predictive value of screening tests. Overview of epidemiological research designs, surveillance systems, and evidence-based practice guidelines. Note: Introductory course for students in public health and related fields. Master's and doctoral students who have strong quantitative skills and plan to conduct epidemiological research should enroll in PH 5201.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5012. Theoretical Foundations of Health Behavior. 3 Credit Hours.
Theories of decision-making related to health behavior. Emphasis on the dynamic interaction of attitudes, values, situational factors and other factors that influence health promoting and health damaging behavior.
Level Registration Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Repeatability: This course may not be repeated for additional credits.

PBHL 5013. Environmental Health. 3 Credit Hours.
This course explores the effects of interactions between the environment and human health, and the ways that adverse effects may be mitigated. Environmental health hazards, including chemical, biological, and physical pollutants in air, water, soil, and food are addressed, as are risk analysis and risk communication as applied to environmental health. Examines how problems and solutions are identified globally, nationally, and locally. The use of biological and chemical agents as weapons is also explored. This course is available online.
Level Registration Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Repeatability: This course may not be repeated for additional credits.

PBHL 5014. Models for Teaching Health and Patient Education. 3 Credit Hours.
Description and application of teaching models used in health and patient education in communities, health care systems, and schools. Emphasis on creating learning environments, communication skills, tailoring for diverse populations, teaching techniques.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5015. Complex Emerg & Forced Mig. 3 Credit Hours.
This course will use case studies and research literature to examine the multifaceted causes of complex emergencies and their subsequent impacts on the health of the population, including populations that stay in place, that are internally displaced (IPD) and population movement that crosses international borders (refugees). The policies and practices of the humanitarian response among both governments and non governmental organizations (NGO's) and their impact on population health will be explored. A framework for three issues that effect population health in complex emergencies will be provided and their consequences and possible interventions iterated. These issues are mental health, gender based violence, and nutrition. Assessment, program implementation, and evaluation will be looked at in the context of the particular barriers and issues found in complex emergency situations.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5111. Special Pop Comm Outreac. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of strategic community outreach as it pertains to the special population communities, within the context of emergency management planning, response, and recovery. It will assist health care and allied health professionals, public health professionals, and emergency responders to understand how accessible information and technology is part of the community outreach strategy. Students will utilize problem based learning by analyzing actual and scenario based disaster events and applying the theories, principals, and practice of strategic community outreach pertaining to emergency response and recovery. In addition, students will learn about the issues faced by special population communities and how to address these special needs in all hazard response and recovery.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
PBHL 5112. Public Health Program Evaluation. 3 Credit Hours.
Research methods and techniques used to evaluate public health programs. Students develop an evaluation design, including defined evaluation questions, study design, specific measures and methods and human subjects protocols.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5201. Epidemiological Research Methods I. 3 Credit Hours.
This course provides an introduction to the fundamentals of conducting epidemiologic research and protocol development. It covers definitions of epidemiology; measures of disease frequency and risk assessment; measures of effect and association; epidemiologic study designs, including randomized clinical trials, cohort, case-control studies, and cross-sectional surveys; assessment of screening programs; an overview of the role of bias and confounding in epidemiologic study results; and analytic techniques, including modeling using multiple variables, survival analysis, and issues related to quality assurance. Note: This course is the introductory epidemiology course for students in the M.S. in Epidemiology or related Public Health degree programs that require advanced quantitative methods. May be taken in place of PH 5101 for students in the M.P.H., M.S.EH and Ph.D. programs.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5202. Man-Made Disasters: Radiological, Chemical & Biological Terrorism. 3 Credit Hours.
This course is designed to introduce students to the concepts and models of public health preparedness, mitigation, and evaluation in the context of man-made disasters, including radiological, chemical and biological incidents. The course will address identified core competencies of emergency preparedness for public health professionals that include: disaster management, risk assessment, risk communication, governmental resources, functional roles, surveillance, and preparedness evaluation. Man-made disasters will be looked at in a historical, environmental and psychological context in order to elucidate the role of public health in man-made disaster preparedness and evaluation. In addition the role of cultural competency and the needs of special populations will be addressed. Public perception of risk and media views of man-made disasters will be explored.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5204. Mental Health Epidemiology. 3 Credit Hours.
Epidemiology of psychiatric disturbances, including alcohol and other drug dependencies, psychosocial aspects of health and illness. Emphasis on epidemiologic methods and theories in psychosocial and mental health research.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5301. Industrial Hygiene. 3 Credit Hours.
Anticipation, recognition, evaluation, and control of occupational and environmental health hazards. Topics include recognition of hazards from chemical, physical, and biological agents; analytical and survey methods of hazard evaluation; and engineering solutions, administrative actions, and personal protective equipment for hazard control. This course is available online.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5302. Industrial Safety. 3 Credit Hours.
In-depth presentation of the safety hazards that can be found in a work environment, and methods for their control. Students identify different classes of safety hazards, and design and present solutions for them.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5305. Environmental Toxicology. 3 Credit Hours.
A review of the absorption, distribution, metabolism and excretion of environmental toxicants. Methods used to measure acute and chronic toxicity, including carcinogenesis, are explored.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5306. Analytical Instrumentation. 3 Credit Hours.
Sampling and analysis of chemical and physical agents using laboratory-based methods and real-time monitoring. Sample collection and proper handling. Analytical applications of absorption spectroscopy in the ultraviolet, visible and infrared; atomic absorption; emission spectroscopy; mass spectrometry; separation methods, including liquid chromatography.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
PBHL 5307. Industrial Ventilation. 3 Credit Hours.
The use of ventilation to maintain suitable environmental conditions in work areas. Topics include dilution ventilation; comfort ventilation; local exhaust ventilation system design, including fan, duct, and hood selection; and ventilation system testing. This course is available online.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5308. Medical Aspects of Occupational Health. 3 Credit Hours.
The physiology and the relationship to occupational health of the following: allergies; cardiovascular system; ear, nose, and throat; eye; hematology; lung; neurology; neuromuscular-skeletal system; occupational hepatitis; psychiatry; and skin.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5309. Ergonomics: Human Factors in Occupational Health. 3 Credit Hours.
This course covers both the observational, programmatic elements and the technical tools of ergonomics, including a number of computer-based applications for assessing specific situations. Ergonomic concepts and solutions are discussed covering low back pain, manual handling tasks, cumulative trauma disorders, repetitive tasks, human fatigue, job design, anthropometry, workplace design, human error, equipment design, vibration, and illumination. This course is available online.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5401. Curriculum Construction in Health Education. 3 Credit Hours.
In-depth examination of constructing, delivering and evaluating curricula. Provides opportunity to develop curricular materials for teaching in school situations.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 5500. Seminar in Current Issues in Public Health. 3 Credit Hours.
Seminar topics rotate to address current issues in public health research, policy and practice.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

PBHL 8001. Research Design in Public Health. 1 to 3 Credit Hour.
This course examines how to develop and test models, formulate research problem statements and hypotheses, and implement and evaluate research designs and methods of data collection in public health research. It concentrates on fundamental concepts in research design and measurement that help prepare the student to plan and implement theoretically informed and methodologically sound scientific studies in public health and to critically evaluate and discuss public health research. The course emphasizes ethical and practical methods of studying and evaluating causal relations (efficacy and internal validity); determining generalizability of observations (effectiveness, external and ecological validity); and accurate and reliable measuring and conceptualizing of variables (construct validity). In addition, it covers systematic literature searches and randomized controlled trials, which are both increasingly important methods for conducting research in public health.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8002. Research Seminar in Health Studies. 3 Credit Hours.
Research seminar on linkages between theory and research in social and behavioral health studies. Required for Ph.D. students prior to taking the preliminary examinations.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8003. Political-Economic Aspects of Public Health. 3 Credit Hours.
Survey of the political and economic aspects of public health systems, practice, research.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites: PBHL 5201 May not be taken concurrently.
PBHL 8004. Undrst/Ng Stress & Chng. 3 Credit Hours.
You will become aware of situations, people, and words that trigger alarm reactions. The profile that you will complete for this course will help you understand the causes of your stress, how your body reacts to excessive stress, and symptoms that exist because of your stress levels. You will become aware of areas that affect your control of life situations and how they affect your overall energy efficiency. You will become aware of how you manage your time and social situations. You will learn about the influence of exercise, sleep, nutrition and relaxation training on your health status and quality of life. You will become aware of your level of job or occupational stress and variables that affect your job-related stressors. You will become aware of how your thoughts and perceptions affect your body’s response to the stressors you face each day. You will become more confident in managing all aspects of your life as it relates to stress reactivity. You will become more confident; have more energy, greater control and fewer symptoms following the implementation of the many ideas, concepts and recommendations that will be offered. You will learn to put your energy into areas that are in your control. You will learn to be able to let go of situations that are now “history” and in the past. You will be able to have a more balanced and logical view of stress and its relationship to your health status and quality of your life.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8005. Theor Hlth Policy Making. 3 Credit Hours.
The purpose of this course is to introduce students to the primary theoretical frameworks for the development of policy, from agenda setting, through decision making and implementation. In addition to reviewing the theoretical foundations of policymaking, the course will apply the theories to current health policy issues.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8006. Addictions and Dependencies. 3 Credit Hours.
Social, psychological, cultural, clinical, and biological factors associated with addictions and dependencies, including the use of psychoactive drugs and lifestyle behaviors. Review of prevention and treatment approaches based on the causes and correlates of addictions and dependencies.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8007. Seminar in Maternal and Child Health. 3 Credit Hours.
Seminar on social, economic, and political issues in maternal and child health policies from the national to agency levels. Students undertake an analysis of a MCH issue using a policy analysis framework developed throughout the seminar. Includes definitions of MCH, the organization and funding of services, literacy and cultural issues and the evidence base for policies and programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8008. Health Economics. 3 Credit Hours.
This class will promote the understanding of core health economics theory, using research literature and case studies to examine how economic theory has shaped the development and understanding of the healthcare systems and policies in the U.S. A background in economic theory will help students to understand and interpret research based on those theories. Health Economics is intended to promote an understanding of how these theories fit into the formation and changes in our healthcare structure. It will also offer an economic perspective on health behavior, such as how discounting relates to risk behavior and how risk preference relates to insurance purchase.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8009. Health Psychology. 3 Credit Hours.
Through class lecture, readings, and discussions, students will learn how characteristics of persons (e.g., personality, behavior, coping, biological reactivity) and their environments (e.g., stress, social support) influence health outcomes at the individual and population level. In addition, the course examines the potential of health psychology to explain population-level health problems and to ameliorate public health problems through behavioral and community-based interventions.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
PBHL 8011. Social Determinants of Health. 3 Credit Hours.
The purpose of this course is to provide an introduction for graduate students to the key social factors that are thought to influence health. These social factors include constructs such as gender, race, socioeconomic status, and social support. Understanding these social factors is important for public health research and practice. These factors can be considered "fundamental causes" of health outcomes insofar as they may cause or modify other factors that are known to influence health, such as individual behaviors or genetics. The course will focus on the conceptual and theoretical basis of these social factors, how these social factors are measured in epidemiologic research, and the mechanisms by which these social factors are thought to affect health. Students will have the opportunity to improve their skills in critically evaluating empirical data about the association between these social factors and health.

Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Public Health
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5101|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8012. Multivariate Biostatics. 3 Credit Hours.
The objective of the course is to provide basic theory and application of regression models, analysis of variance, nonparametric statistics, and survival analysis applied to the analysis of population-based data. The emphasis will be on generating and interpreting results and health related applications rather than statistical theory. The course is designed for graduate students in public health who are already familiar with basic statistical concepts, including descriptive statistics, the components of statistical inference (p-values, hypothesis tests, confidence intervals, etc), as well as concepts of confounding and effect modification.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5002|May not be taken concurrently.

PBHL 8013. Research Methods in Health Policy. 3 Credit Hours.
The purpose of this course is to introduce and engage students in research methods used in health policy research, including both the development of policies and the evaluation of existing policies. The course will cover both qualitative methods such as policy analysis, interviewing, focus groups and content analysis, as well as quantitative methods such as legal mapping studies, secondary data analysis, and some economic evaluations. The course will explain and engage these methodologies but students are not expected to carry out statistical analysis. Lastly, the course will require students to think about the results generated in such research and effective ways in which to communicate such findings to the appropriate audience. The course is intended for students who will be working on policy research or social science research that may include a policy component. Learning objectives will be met through didactic lecture, a formal policy analysis paper, individual homework assignments and a final exam.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5002|May not be taken concurrently.

PBHL 8014. Comparative Health Policy. 3 Credit Hours.
Approaches to public health policy are informed and influenced by evidence and experience from across the nation and around the globe. Students will be challenged to think about the social, cultural, political and economic challenges of engaging public health policy to advance population health in an international context.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5006|Minimum Grade of B-|May not be taken concurrently.

PBHL 8015. Public Health Policy and Legal Issues. 3 Credit Hours.
This course will introduce public health students to the basic legal principles underlying public health policy and the mechanisms to achieve policy change. The law is a powerful tool to support public health but government must act within the confines of the Constitution and balance competing rights of individuals and the broader community. The course will explore these relationships in historical and present contexts and examine the differences among federal, state and local governments’ authority to enact public health policy. Students will be able to identify the legal issues that arise when government attempts to regulate risky behavior by individuals or the conduct of companies that produce and market products that create such risks (e.g., tobacco, firearms, alcohol). The course will evaluate why the law is not uniform depending on the product government seeks to regulate (e.g., food v. vaccines) and how litigation can effectively change this legal landscape. Any student interested in policy should be familiar with basic legal rules and current debates in regulation and control; this class will provide such insight and equip students to work in any type of policy or advocacy setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5006|Minimum Grade of B-|May not be taken concurrently
OR PBHL 8003|Minimum Grade of B-|May not be taken concurrently.
PBHL 8016. Human Health Risk Analysis. 3 Credit Hours.
This course is an introduction to the use of stochastic modeling to identify, assess and manage environmental health hazards, risk assessment and analysis through the lens of public health. Students will develop an understanding of the underlying sciences and mathematics that fall within exposure science and use Markov chain method to build exposure models.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5002|Minimum Grade of B|May be taken concurrently.

PBHL 8018. Obesity: From Genes to Junk Food. 3 Credit Hours.
The course will broadly explore the etiology, treatment, and prevention of obesity from a multi-level systems perspective. Genetic, epigenetic, physiological, and psycho-social influences will be considered at the level of the individual. These influences will also be considered within family, school, and work-site contexts. Macro-level influences include government policies and programs, media, food industry influences, and community resources. Critical thinking skills and scholarly exchange will be emphasized through classroom discussion and weekly presentations/critiques of emerging science in each topic area.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5101|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8105. Health Communication. 3 Credit Hours.
Levels of communication processes and effects in 1) intrapersonal health communication related to personality, attitudes, cognitive style, and quality of life; 2) interpersonal communication in the patient-caregiver relationships including dynamics of stress, conflict, and social support; 3) organizational communication in health-care settings; 4) mass communication processes including media campaigns to promote good health and disease prevention; and 5) risk communication across settings and strategies.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8111. Public Health Program Planning. 3 Credit Hours.
Program planning in public health practice. Analysis of national health objectives and their applications at the state and community levels. Emphasis on program planning as a change strategy to alter knowledge, attitudes, and health behavior to achieve positive health outcomes.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
(PBHL 5101|May be taken concurrently)
OR PBHL 5201|May be taken concurrently.
AND (PBHL 5002|May be taken concurrently)
AND (PBHL 5102|May be taken concurrently).

PBHL 8201. Structure Equation Model. 3 Credit Hours.
Extremely rapid pace of change in statistics and methodology in the field of developmental processes and family systems require that graduate students (and newly minted PhDs in academic and applied settings) be well versed in current data analytic techniques and able to keep abreast of emergent techniques by being aware of contemporary methodological literature. This course will illustrate the uses of structural equation models for cross-sectional, longitudinal and family data analysis. The course is organized to take participants through each of the cumulative steps in the analysis: deciding which type of model is appropriate, setting up the data file and coding variables, interpreting and displaying empirical findings, and presenting results in both verbal and written form. Class time will be devoted primarily to lectures, examples, group discussions and hands-on application of course material.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8202. Epidemiological Research Methods II. 3 Credit Hours.
The content of this course illustrates statistical concepts, methods, and strategies used in epidemiologic studies, beyond the principles discussed in PH5201 (Epidemiologic Research Methods I). Topics include a review of basic study designs, analysis of prospective and retrospective data, assessment of bias, confounding, effect modification/interaction, statistical methods of stratification and adjustment, sample size/power calculations, importance of quality control and data monitoring in randomized clinical trials, critical determination of causality, and the comprehensive analyses, reporting and presentation of epidemiologic results.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5201|May not be taken concurrently.
PBHL 8203. Pub Hlth Data Reporting. 3 Credit Hours.
Systematic reviews are essential tools for health care workers, researchers, consumers, and policy makers who need to keep abreast of the accumulation of knowledge within their field. Systematic reviews provide more objective evaluation of the evidence than has been possible with traditional narrative reviews, and so can help resolve uncertainty and point toward promising future directions in research and practice. When appropriate, meta-analyses can help increase the precision of estimates regarding treatment effects and way to improve treatments. For example, identification of subgroups of individuals most (or least) likely to benefit from treatment can generate new questions to be addressed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5101|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8204. Multilev Mod in Int Res. 3 Credit Hours.
Interdisciplinary research nearly always involves data with a nested, hierarchical, or multilevel structure. Such data violate the standard statistical assumption of independence of observations. As well, the most important interdisciplinary research questions often involve understanding effects of one level of this structure on characteristics of another level of structure. Within the intervention contexts, individuals often serve as their own context as events unfold over chronological time. This course provides a broad and comprehensive introduction to analysis of multilevel data with an emphasis on questions which bridge disciplines. Participants should be familiar with the general linear model (analysis of variance, regression) prior to enrolling in this course, but no previous familiarity with mixed models (other than repeated measures ANOVA) is assumed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

PBHL 8205. Chronic Disease Epidemiology. 3 Credit Hours.
This intermediate course will cover selected topics in chronic disease epidemiology through critical examination of the current literature. Students will have the opportunity to study methodological issues, strategies for prevention, and contemporary issues in research. Coronary heart disease, cancer, diabetes, musculoskeletal disorders, chronic lung diseases and others will be addressed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5102|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8206. Infectious Disease Epidemiology. 3 Credit Hours.
This Infectious Disease Epidemiology course provides basis for understanding infectious diseases, disease transmission, risk factors, outbreak investigation and study designs, surveillance methods, current infection control strategies and mechanisms. The purpose of this course is to expose students to the principles and practice of infectious disease epidemiology and how communicable diseases and their control affect public health locally, nationally and internationally.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5102|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8207. Occupational and Environmental Epidemiology. 3 Credit Hours.
This intermediate course will cover selected topics in occupational and environmental epidemiology through a focus on specific health outcomes, such as non-malignant respiratory diseases, cancer, and musculoskeletal disorders, within the context of particular study designs or exposures. Students will have the opportunity to critically examine the current literature, and to study contemporary issues in research. Exposure assessment, biomarkers and emerging diseases within the context of the workplace and the environment will be addressed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5102|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8208. Data Management and Analysis. 3 Credit Hours.
The content of this course will illustrate practical concepts, methods, and strategies used in the development, management and analysis of large data sets through in-class and homework exercises, quizzes, and a final project. Each class session will be a mixture of a lecture, demonstration and hands-on SAS programming exercises.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
PBHL 5201|May not be taken concurrently
OR (PBHL 5002|May be taken concurrently
AND PBHL 5101|May be taken concurrently).
PBHL 8209. Epidemiology of HIV/AIDS. 3 Credit Hours.
Epidemiology of HIV/AIDS. Application of epidemiological principles and concepts in infectious disease epidemiology with emphasis on surveillance, research, prevention, and control.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may not be repeated for additional credits

Pre-requisites:
PBHL 5101|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

PBHL 8306. Public Health Advocacy. 3 Credit Hours.
The purpose of this course is to prepare future public health practitioners with substantive knowledge on how policy is crafted, how to effectively integrate public health science in the policy process, and provides practical skills on engaging policymakers, and public constituencies to support public health initiatives. It will combine policy/advocacy strategy, real-life case studies, lectures by policymakers, and strategic analysis of recent legislative developments in health care. Reading assignments provide background knowledge for class lectures and discussion.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may not be repeated for additional credits.

PBHL 8307. Systematic Review in He. 3 Credit Hours.
Systematic reviews are essential tools for health care workers, researchers, consumers, and policy makers who need to keep abreast of the accumulation of knowledge within their field. Systematic reviews provide more objective evaluation of the evidence than has been possible with traditional narrative reviews, and so can help resolve uncertainty and point toward promising future directions in research and practice. When appropriate, meta-analyses can help increase the precision of estimates regarding treatment effects and way to improve treatments. For example, identification of subgroups of individuals most (or least) likely to benefit from treatment can generate new questions to be addressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may not be repeated for additional credits.

PBHL 8308. Physical Agents. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may not be repeated for additional credits.

PBHL 8309. Exposure Assessment. 3 Credit Hours.
Exposure Assessment is the multi-disciplinary field that identifies and characterizes exposure to environmental agents; develops estimates of exposure for epidemiology, exposure-response, trend and surveillance, and risk assessment studies; and evaluates the significance of exposure of effectiveness of intervention strategies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may not be repeated for additional credits.

PBHL 9083. Readings and Conference in Public Health. 1 to 3 Credit Hour.
Advanced tutorial in public health with an appropriate faculty member. Note: Requires written contract with the supervising faculty member and approval of Advisor and the Director of Graduate Programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may not be repeated for additional credit.

PBHL 9187. Biostat Cnslt Practicum. 3 Credit Hours.
The objective of this course is to prepare students to collaborate effectively as biostatistics support consultants in the health professions. The emphasis will be to refresh statistical techniques and develop communication and problem solving skills. This course is designed for graduate students in public health who can use well-validated commercial statistical software, such as SAS, for the analyses of data from observational and/or interventional research studies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may be repeated for additional credit.

PBHL 9189. MPH Capstone Seminar. 3 Credit Hours.
Required of M.P.H. students during final year of study. Seminar includes integration of coursework, practice skills to develop a fieldwork project or internship in a public health agency.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may be repeated for additional credit.

PBHL 9289. MPH Fieldwork I. 3 Credit Hours.
Fieldwork project or internship in a public health agency. Includes seminars, oral and written reports of progress and joint supervision by a preceptor and faculty member.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate

Repeatability: This course may be repeated for additional credit.
PBHL 9389. MPH Fieldwork II. 3 Credit Hours.
Evaluation of the fieldwork project or internship using a full range of research methodologies. Data are collected, analyzed and reported in a comprehensive final report. Oral and/or poster presentations are presented to public health organizations. Includes a final oral defense of the project or internship.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate
**Repeatability:** This course may be repeated for additional credit.

PBHL 9583. Independent Research in Public Health. 2 to 12 Credit Hours.
Independent research in public health supervised by an appropriate faculty member. Note: Requires written contract with the faculty member supervising the research, human subjects certification and documentation of IRB approval, approval of Advisor and Director of Graduate Programs.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate
**Repeatability:** This course may be repeated for additional credit.

PBHL 9991. Independent Project in Environmental Health. 1 to 3 Credit Hour.
Under the direction of an appropriate graduate faculty member, students tie together their coursework in a project that poses a problem, gathers data to help analyze the problem, and provides a solution. Note: Enrollment must be approved by Advisor and Director of Graduate Programs.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate
**Repeatability:** This course may be repeated for additional credit.

PBHL 9996. Masters Res in Pub Hlth. 3 Credit Hours.
Limited to students who have chosen to fulfill the master's degree by writing a thesis.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate
**Repeatability:** This course may be repeated for additional credit.