Epidemiology, Ph.D.

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

About the Program

The dynamic and quantitatively oriented doctoral program in Epidemiology provides advanced training in epidemiologic and biologic methods. The program develops strong academic researchers in the field of Epidemiology with a clear understanding of the patterns, causes, and effects of diseases in the population who are well-prepared to design, implement, analyze, and interpret research studies investigating key epidemiologic questions with the ultimate goal of improving overall population health. Working closely with faculty in the department, students gain expertise in collecting data, designing instruments and research protocols, directing and conducting sophisticated and multilevel statistical analyses, interpreting data, and communicating research findings to both lay and professional audiences. All students in the Ph.D. in Epidemiology program complete common core public health course requirements, which include foundational courses in Bioethics, Biostatistics, Epidemiology, and History of Public Health. Beyond these core courses, students master specialized courses in advanced epidemiologic and biostatistical methods and engage in research and scholarly productivity with faculty members in the department and throughout the college.

In addition to in-depth, didactic training in epidemiologic and quantitative concepts and methods, the Ph.D. in Epidemiology program aims to foster in students the development of a public health professional identity and values. Professional development exercises are infused in didactic courses and available in other program-sponsored activities (e.g., conference attendance, departmental colloquia and brown-bag presentations, journal clubs, and professional development workshops). Doctoral trainees in Epidemiology are encouraged to take advantage of these professional development opportunities offered at various public health centers and laboratories throughout the College of Public Health and Temple University. Ph.D. in Epidemiology students work closely with faculty mentors throughout the program and particularly during the dissertation phase on formalizing grant-writing skills, teaching in higher education, and writing papers for publications to prepare students as the next generation of academic researchers.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is preferred.

Interdisciplinary Study: Students are encouraged to develop a program of research that is interdisciplinary in nature, involving coursework and research across departments, schools, and colleges that is quantitative and methodologic in focus. Research in affiliated units is encouraged.

Affiliation(s): A number of centers and laboratories exist within the Department of Public Health, the College of Public Health, and Temple University that are designed to study, develop, and evaluate interventions aimed at resolving significant public health problems (e.g., ethnic and racial disparities in cancer, inadequate disaster preparedness, maternal and child health, obesity, tobacco exposure, violence). These centers and labs offer opportunities for research placements for doctoral students to assist students in developing research and papers for publication and presentation at conferences; provide professional socialization; help students meet and work with faculty to define dissertation projects using existing funded research studies; and may provide some funding in the form of Research Assistantships.

Specific centers and labs include the Center for Asian Tobacco Control, the Health Behavior Research Clinic, the Maternal and Child Health Wellness Laboratory, the Risk Communication Laboratory, and the Social and Behavioral Health Intervention Laboratory. Faculty and doctoral students also are involved in research with affiliates in the Department of Nursing, Fox Chase Cancer Center, the Fox School of Business and Management, the Institute on Aging, the Institute on Disabilities, the School of Media and Communication, the School of Medicine, and the School of Podiatric Medicine. Additional research opportunities at Temple University include the Institute for Survey Research, the Social Science Data Library, and the Testing and Measurement Center.

Job Prospects: Graduates of the Ph.D. in Epidemiology program are prepared to become empirical quantitative researchers in academic units, nonprofit organizations, government agencies, or the private sector, including pharmaceutical companies or health systems. Graduates are well trained to identify the etiology of major public health issues; conduct and analyze survey, surveillance, longitudinal, case-control, and experimental data using comprehensive and complex statistical techniques; and develop their own methodologically rigorous research studies.

Non-Matriculated Student Policy: Non-matriculated students may take Ph.D. courses only with the permission of the instructor. Further, 8000-level courses are not open to non-matriculated students. Completion of coursework does not ensure admission into the program.

Financing Opportunities: Full-time Ph.D. students generally receive financial support through a combination of fellowships and assistantships. Research Assistants (RAs) perform supervised research activities. Teaching Assistants (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. TAs and RAs provide 20 hours of service per week. Both assistantships carry a stipend and typically 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 10 for the following Fall term. The RA/TA 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
Admission Requirements and Deadlines

Application Deadline:

Fall: January 2

All applicants to the Ph.D. 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.

All application materials must be received by the deadline in order to be reviewed by the Ph.D. Admissions Committee. Admission is competitive, and students are admitted only once a year. Applications are evaluated together after the deadline has passed. Applications that are completed after the deadline are held for review the following year. An important component of the admissions decision is the fit between the applicant’s goals, experiences, and interests and the expertise of the faculty in the Ph.D. program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant’s academic abilities and talents, as well as comment on the applicant’s aptitude for doctoral-level study and research. Recommendations from college/university faculty members are preferred.

Coursework Required for Admission Consideration: Applicants are expected to have completed coursework in Statistics, Research Methods, Epidemiology, and Data Analysis. Courses in Natural, Social, or Behavioral Sciences related to health are desirable.

Master’s Degree in Discipline/Related Discipline: Nearly all students admitted to the Ph.D. in Epidemiology program have a master’s degree. Although a master’s degree specifically in Epidemiology is not required, preference is given to applicants who have a background in Epidemiology, Statistics, and the Health Sciences, including Behavioral Medicine, Environmental Health, Medicine, or a Public Health discipline.

Bachelor’s Degree in Discipline/Related Discipline: A baccalaureate degree is required, although it need not be in Public Health. Preference is given to applicants who have a background in Epidemiology, Statistics, and the Health Sciences, including Behavioral Medicine, Environmental Health, Medicine, or a Public Health discipline.

Statement of Goals: In no more than 750 words:
- describe important academic and research achievements and interests; and
- specify how your research interests relate to your ultimate career goals in the field of Epidemiology and to ongoing work by faculty members affiliated with the Ph.D. in Epidemiology program.

The match between faculty and student interests is important in the admissions decision. Be sure to articulate clearly the linkages among your training goals, the expertise of our faculty, and the training emphasis of the Ph.D. program. For a description of faculty interests, visit http://cph.temple.edu/publichealth/faculty.

Standardized Test Scores:
GRE: Required. The median score of recently admitted applicants is 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 required.

Writing Sample: Scholarly articles, technical reports, or academic professional papers are preferred in which the applicant is the first author. Unless it is a published work, the writing sample should be no more than 10 pages.

Advanced Standing: A student enrolled in the Ph.D. in Epidemiology program may apply for advanced standing credits for graduate coursework graded “B” or better from an accredited institution. Credits for courses taken as part of a master’s degree are considered; credits for theses, work, fieldwork, clinical practice, or directed projects/readings cannot be used for advanced standing credit. To be approved for advanced standing, the courses must be deemed appropriate as part of the student’s training in the Ph.D. program. The maximum number of advanced standing credits awarded is 30.
### Program Requirements

**General Program Requirements:**

*Number of Didactic Credits Required Beyond the Baccalaureate:* 68 (some of these may be in the form of Advanced Standing credit, which is determined after matriculation)

**Required Courses:**

#### Epidemiology Core Courses

- Fundamentals of Public Health: 3 credits
- Epidemiologic Research Methods I: 3 credits
- Epidemiologic Research Methods II: 3 credits
- Epidemiologic Research Methods III: 3 credits
- Research Design in Public Health: 3 credits
- Biostatistics: 3 credits
- Multivariate Biostatistics: 3 credits
- Teaching in Higher Education: 3 credits
- Pathophysiology of Human Disease: 3 credits
- Public Health/Epidemiology Grand Rounds: 1 credit

#### Research Courses

Select five required courses: 15 credits

- Data Management and Analysis
- Critical Review of Literature
- Grant Writing
- Structural Equation Modeling
- Public Health Data Reporting
- Exposure Assessment
- Multilevel Modeling in Interdisciplinary Research
- Systematic Reviews in Health Ecology
- Human Health Risk Analysis
- Biostatistical Consulting Practicum
- Special Topics in Biostatistics
- Spatial Analysis Techniques/ Geographic Information Systems
- Advanced Techniques in Geographic Information Systems
- Time Series Analysis
- Survival Analysis I
- Survival Analysis II
- Clinical Trials
- Statistical Computing
- Advanced SAS Programming
- Stat Learning and Data Mining
- Statistical Genetics: An Advanced Graduate Course
- Data Analysis for Computer Packages

#### Electives

Select five courses: 15 credits

- Infectious Disease Epidemiology
- Chronic Disease Epidemiology
- Social Determinants of Health
- Epidemiology of HIV/AIDS
- Occupational and Environmental Epidemiology
- Mental Health Epidemiology
- Obesity: From Genes to Junk Food
- Pharmacoepidemiology
- Special Topics in Epidemiology
Molecular Epidemiology
Diseases of Cardiovascular and Respiratory Systems
Prevention Epidemiology
Reproductive Epidemiology

Non-Didactic Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRPR 9994</td>
<td>Preliminary Examination Preparation</td>
<td>1</td>
</tr>
<tr>
<td>HRPR 9998</td>
<td>Pre-Dissertation Research</td>
<td>3</td>
</tr>
<tr>
<td>HRPR 9999</td>
<td>Doctoral Dissertation Research</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 68

1 Students enrolled in HRPR 9998 must take 3 credits each term until the dissertation proposal is approved and filed with the Graduate School.

2 Students enrolled in HRPR 9999 must take a minimum of 6 credits after approval of the proposal and be enrolled for at least 3 credits each term until the dissertation is defended and filed with the Graduate School.

Culminating Events:

Area Paper:
The Director of Graduate Studies determines if the published paper meets the writing requirement. If a student is not submitting a first-authored, peer-reviewed, and published (or in press) article, two faculty reviewers review the paper to assess whether it is of publishable quality. The student must be the lead or sole author.

A student cannot advance to the preliminary examinations without passing the paper requirement. Failure to satisfactorily complete the area paper requirement within the specified time frame can result in dismissal from the Ph.D. program. Students who are entering the Ph.D. program and have already published a peer-reviewed paper related to Epidemiology can request to waive this requirement by completing a waiver application and submitting it along with the published document to the Director of Graduate Studies.

Preliminary Examinations (HRPR 9994):
After completing the paper requirement, all students are required to take the preliminary examinations prior to defending their dissertation research proposal. The preliminary examinations cover all of the core components of the students’ training, including the specific area of concentration. The exams should be taken within one term of completing all coursework. The student must register for 1 credit of HRPR 9994 in the term in which the examinations are taken. To register for HRPR 9994, the student must have completed all coursework or be enrolled in final courses in the term in which the examinations are taken. The examinations cannot be taken until all Incomplete and/or “NR” grades are removed and the area paper requirement has been satisfied. Students are required to meet with their advisor and the Director of Graduate Studies before the beginning of the term in which they plan to take the examinations to establish eligibility. A special authorization card is required to register.

The preliminary examinations consist of the following components:

- Core exam, which is a one-week take-home written examination on history of public health and epidemiology, bioethics in population-based research, and scientific inquiry in health, with an emphasis on epidemiology.
- Methods exam, which is a four-hour in-class examination on research methods and statistics.
- Oral exam, which is a two-hour oral examination by a panel of three faculty members on any areas covered in the three written examinations, the area paper, and the field of Epidemiology.

Students who fail the written examination do not proceed to the oral examination. They may have one opportunity to take the examination again. A second failure results in automatic dismissal from the Ph.D. program.

Dissertation Proposal (HRPR 9998):
After passing the preliminary examinations, students may enroll in HRPR 9998. Students must be enrolled for 3 credits of HRPR 9998 each term until they file their dissertation proposal with the Graduate School.

All students must form a Doctoral Advisory Committee (DAC) with the approval of the Director of Graduate Studies. The DAC is composed of at least three Graduate Faculty members: two members, including the Chair, must be from the Ph.D. program faculty of the Department of Public Health. The DAC Chair must be approved as Doctoral Graduate Faculty by the Dean of the College of Public Health and by the Graduate School. The Chair is responsible for overseeing and guiding the student’s progress; coordinating the responses of the Committee members; and informing the student and the Director of Graduate Studies annually of the student’s academic progress. A fourth, external reader is also required at the time of the final
dissertation defense. This person must be a member of the Graduate Faculty at Temple or approved by the Dean of the College to take part in the final dissertation examination. This fourth member is not required to be present at the defense of the proposal.

To fulfill the requirements of HRPR 9998, students must submit a dissertation proposal, successfully defend it orally before their Committee, apply for IRB approval for the proposed research, and submit the proposal to the Graduate School. Students have a maximum of one year from the time of completing their preliminary examinations to develop and defend their dissertation proposal. Thus, students may enroll in HRPR 9998 for only two terms without permission. Students needing more time may, with the support of their advisor, formally petition the Director of Graduate Studies for an extension, although an extension is not guaranteed. Failure to meet these requirements can result in dismissal from the program.

Dissertation (HRPR 9999):
The doctoral dissertation is an original theory-based research study that makes a significant contribution to the fields of Public Health and Epidemiology. It should expand existing knowledge and demonstrate the student’s mastery of research design methods and advanced statistical techniques, particularly within the field of Epidemiology. The research should be rigorous, while upholding the ethics and standards of the field. It is expected that the study will result in publication and presentation to professional audiences.

To fulfill the dissertation requirement, students must prepare and orally defend the final dissertation in a public meeting. Students should present their plans for publishing their dissertation as part of their defense. Students must be enrolled continuously for at least 3 credits of dissertation research until their dissertation is successfully defended. The Graduate School requires a minimum of 6 credits for the dissertation experience. Students must be enrolled in the term that they graduate.

The Dissertation Examining Committee (DEC) consists of the DAC plus at least one additional external reviewer. The external reviewer must be doctoral prepared. If this person is not a member of the Temple University Graduate Faculty, s/he must be approved by the Director of Graduate Studies, the Dean of the College, and the Graduate School to take part in the final dissertation examination. The DEC evaluates the student’s written dissertation and oral defense, including the student’s ability to articulate orally the research question; methodological approach; primary findings; interpretation of the findings; and implications for theory, research, and practice. The DEC votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the Director of Graduate Studies and registered with the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and work with the Department of Public Health’s Administrative Assistant to secure a room. This should be done at least one month in advance of the proposed date. The Administrative Assistant arranges the time, date, and room within two working days. After the time, date, and room are secured, the student must send to the Graduate School a completed “Announcement of Oral Defense” form, found at http://www.temple.edu/grad/forms/. This must be submitted at least 10 working days before the defense. The department posts flyers announcing the defense, and the Graduate School lists the defense on its website.

Contacts

Department Web Address:
http://cph.temple.edu/publichealth/

Department Information:
Dept. of Public Health
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
publichealth@temple.edu
215-204-8726

Submission Address for Application Materials:
https://portal.sophas.org/

Department Contacts:
Admissions:
Theresa White
Senior Graduate Advisor
theresawhite@temple.edu
215-204-5105

Director of Graduate Studies:
Dr. Deborah Nelson
dnelson@temple.edu
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 5101. 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 5102. 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.
**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 5103. 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.
**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 5104. 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 5107. 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 (IDP) 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 bodies’ response to the stressors you face each day. You will become more competent 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, he 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.

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 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.