Public Health/Applied Biostatistics, M.P.H.

About the Program

The Master of Public Health with a concentration in Applied Biostatistics is a unique and newly developed degree in response to the growing need for master's-trained professionals with expertise in advanced biostatistical methods. The program is designed to train professionals in the field of public health who have a clear understanding of and expertise in the use, statistical application, and interpretation of large and complex data sets; the critical importance of valid study designs and analytic methods; and the application of hypothesis-based development and statistical programming and testing. Students complete their studies with an understanding of the fundamental critical thinking skills and statistical/programming competencies necessary for public health practice and Applied Biostatistics in accordance with Council on Education for Public Health (CEPH) standards. Applied Biostatistics courses address topics such as database coding and development; environmental surveillance; multivariate biostatistics, including the use of regression models and multifactorial analysis; research design; and risk assessment and statistical analysis in human disease. Students in the Applied Biostatistics program are trained in the M.P.H. core competencies while gaining skills to use and apply multiple statistical program packages, including SPSS, SAS, STATA, and R; develop appropriate study designs based on appropriate research questions; and interpret and present study results to various audiences.

The vision of the Department of Public Health is to excel as a regional and national leader by fostering interdisciplinary collaboration among researchers, educators, community practitioners, and private sector leaders. The goal is to address community health needs in a global community to eliminate health disparities and increase the quality and years of healthy life. Emphasis is on disease prevention and treatment, empowerment, and collective as well as individual responsibility for health and health care. Collaborative partnerships contribute to meeting local, state, national, and global public health needs by conducting research, training a diverse workforce, and promoting excellence in practice. Thus, the M.P.H. with a concentration in Applied Biostatistics at Temple University is particularly poised to foster interdisciplinary research and train students to work in an interdisciplinary environment.

Time Limit for Degree Completion: 4 years

Campus Location: Main. Some required and elective courses are offered at satellite campuses and through online courses, but the full M.P.H. program is currently available only at Main Campus.

Full-Time/Part-Time Status: Students can complete the degree program through evening classes and online courses. Full-time students usually complete the program within two academic years. Part-time students usually take three to four years to complete their degree.

Interdisciplinary Study: Interdisciplinary M.P.H. coursework, research, and interactions are encouraged to give students as broad a perspective as possible to excel in the complex, diverse, and dynamic state of public health. Through associations with the Center for Obesity Research and Education, Center for Women’s Health, and others, students have access to over 100 faculty at Temple University and additional regional scholars who are actively involved in programs, research, and teaching in public health. The Department of Public Health also offers six dual degree programs:

- D.D.M./M.P.H. with Temple University's Kornberg School of Dentistry
- D.O./M.P.H. with the Philadelphia College of Osteopathic Medicine
- D.P.M./M.P.H. with the Temple University School of Podiatric Medicine
- J.D./M.P.H. with Temple University's Beasley School of Law
- M.D./M.P.H. with the Temple University School of Medicine
- M.S.W./M.P.H. with the Temple University School of Social Work

Affiliation(s): Locally, the program has long-standing research affiliations with The Food Trust, Fox Chase Cancer Center, Health Federation of Philadelphia, Philadelphia Department of Public Health, Public Health Management Corporation (PHMC), School District of Philadelphia, and numerous other community health agencies.

Study Abroad: Courses studying health care delivery in Costa Rica have been offered as part of the M.P.H. program of study. These courses are offered during the Summer and are open to both undergraduate and graduate students.

Accreditation: The M.P.H. is fully accredited by the Council on Education for Public Health (CEPH). Achieving accreditation in 1985, Temple's M.P.H. program is one of the longest established accredited M.P.H. programs in community health in the country.

Areas of Specialization: The Department of Public Health has five transcribed concentrations for the M.P.H. degree program:

- Applied Biostatistics (APBIO)
- Environmental Health (EH)
- Epidemiology (EPI)
- Health Policy and Management (HPM)
• Social and Behavioral Science (SBS)

In addition, a certificate in Global Health is available to all students in the M.P.H. program. Students are able to complete this transcripted concentration by utilizing their three elective courses for Global Health classes.

**Job Prospects:** Graduates with an M.P.H. in Public Health/Applied Biostatistics are employed in research institutions, such as universities and medical centers; at government agencies at the federal level, such as the Centers for Disease Control and Prevention, as well as local and state governments; and in private industry, including pharmaceutical firms, in positions such as research associates and statisticians.

**Licensure:** Students who complete an M.P.H. at Temple University are eligible to sit for the Certification in Public Health (CPH) exam and the Certified Health Education Specialist (CHES) exam.

**Non-Matriculated Student Policy:** Non-matriculated students are required to speak with an advisor before registering for classes and to obtain the permission of the professor. If accepted to the program, a maximum of three courses may be applied toward the degree program. Exceptions to this policy relate to formal certificate programs.

**Financing Opportunities:** The Graduate School awards fellowships on a competitive basis only to students with outstanding academic records who are admitted to Temple University for the Fall term. Applicants who wish to be considered for fellowships must apply no later than January 26 for consideration for the Fall term. The department's Admissions Committee nominates outstanding students for these awards, but the Graduate Board's Fellowship Committee makes all award decisions.

Limited Teaching and Research Assistantships are available in Public Health. The Graduate School website details levels of support, benefits, and the terms and conditions of these type of graduate student support at http://www.temple.edu/grad/finances/. Assistantships are awarded on a term or annual basis. Students whose Fall applications are complete prior to or at the application deadline are reviewed for eligibility for Teaching Assistant (TA) positions. TAs are required to work 20 hours per week in any combination of teaching assignments made by the department and must meet the English Language Proficiency standards set by the University and the College. Students who hold Teaching or Research Assistantships are not permitted to hold other employment without the written prior approval of their advisor, the Director of Graduate Programs, and the Graduate School. To be considered for a Teaching or Research Assistantship, complete an application form that is sent to students upon admission to the M.P.H. program. The completed application must be returned to publichealth@temple.edu to be considered.

**Admission Requirements and Deadlines**

**Application Deadline:**

*Fall:* March 1

All applicants to the M.P.H. 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.

Applicants should check their application status on the SOPHAS portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact Theresa White, Senior Graduate Advisor, at theresawhite@temple.edu or (215) 204-5105.

**Letters of Reference:**

*Number Required:* 3

*From Whom:* Letters of recommendation, which are completed electronically through the SOPHAS system, should be obtained from college/university faculty members familiar with academic competence. If the applicant has been out of school for a long time, please ensure that letters are from professional colleagues and that they address academic abilities, such as writing and research.

**Coursework Required for Admission Consideration:** Applicants' files are reviewed for undergraduate coursework in Mathematics and/or Statistics, Social Science, and Writing.

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

**Statement of Goals:** Approximately 500 to 1,000 words address the following items:

- What are your interests in Public Health, and why are you planning to pursue an M.P.H.?
- What are your future career goals, and what have you done either academically or professionally to guide your interest in Public Health?
- What M.P.H. concentration are you applying to and why?
- Are there any exceptional circumstances related to previous academic performance that you would like the Admissions Committee to consider?

**Standardized Test Scores:**
GRE: Required. While the program takes a portfolio approach to admissions, standardized tests provide important insight into quantitative and verbal abilities. Minimum scores are 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.

Standardized tests considered in lieu of the GRE include DAT, GMAT, MCAT, OAT, and PCAT. The LSAT, which is also considered for some M.P.H. concentrations, is not accepted when applying to the Applied Biostatistics or Epidemiology concentrations.

TOEFL: 79 iBT or 550 PBT minimum

Resume: Current resume or CV required.

Transfer Credit: Graduate credits from an M.P.H. program accredited by the Council on Education for Public Health (CEPH) may be transferred into the M.P.H. The credits must be equivalent to coursework offered at Temple, and the grade must be a "B" or better in order to transfer. The M.P.H. advisor approves the transfer of credits based on a review of course materials provided by the student. The maximum number of credits a student may transfer is 9.

Test Waivers: Graduates with a terminal degree from a U.S. medical school, foreign-trained physicians who have obtained licensure to practice in the United States, and those with Ph.D.'s may have the GRE requirement waived.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Baccalaureate: 45

Required Courses:

Public Health Core Courses
- PBHL 5001 Fundamentals of Public Health 3
- PBHL 5002 Biostatistics 3
- PBHL 5006 Political and Economic Aspects of Health 3
- PBHL 5102 Theoretical Foundations of Health Behavior 3
- PBHL 5103 Environmental Health 3
- PBHL 5201 Epidemiological Research Methods I 3

Applied Biostatistics Concentration Courses
- PBHL 8001 Research Design in Public Health 3
- PBHL 8012 Multivariate Biostatics 3
- PBHL 8208 Data Management and Analysis 3

Concentration Electives
- Select one of the following: 3
  - PBHL 8201 Structure Equation Model
  - PBHL 8203 Pub Hlth Data Reporting
  - PBHL 8204 Multilev Mod in Int Res
  - PBHL 8016 Human Health Risk Analysis
  - PBHL 8307 Systematic Review in He
  - PBHL 9187 Biostat Cnslt Practicum
  - PSY 8041 Factor Analysis and Scaling

M.P.H. Fieldwork Practice Experience
- PBHL 9289 MPH Fieldwork I 3
- PBHL 9389 MPH Fieldwork II 3

Electives 9

Total Credit Hours 45

Internship: An internship is required as part of a student's M.P.H. fieldwork.

Culminating Events:

Fieldwork Practicum:
M.P.H. fieldwork requires a student to synthesize and integrate the knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice through an internship or practicum experience with a public health agency or under the supervision of a faculty preceptor. The M.P.H. fieldwork experience serves as the culminating event as required by the
Council on Education for Public Health (CEPH), the accrediting body of all U.S. schools of public health, for completion of the Master of Public Health degree. In addition, this culminating experience provides the student with the opportunity to develop expertise in a topic area and to contribute original and independent observations to a body of knowledge.

For the culminating experience to fulfill the requirements of PBHL 9289 and PBHL 9389, M.P.H. students in the Applied Biostatistics concentration are expected to complete a fieldwork experience, which enables them to:

- Describe the roles biostatistics serves in the discipline of public health.
- Apply basic statistical methods for summarizing public health data and for inference.
- Interpret and present results from the application of basic statistical techniques.
- Distinguish among the different measurement scales and, based on these distinctions, recognize the implications for selection of appropriate statistical methods.
- Apply descriptive techniques commonly used to summarize public health data.
- Recognize concepts of probability, random variation, and commonly used statistical probability distributions.
- Apply common statistical methods for inference, including estimation, confidence intervals, and hypothesis testing.
- Use appropriate statistical software and make proper interpretations based on the output.
- Be trained in a variety of common statistical programs and languages.
- Gain hands-on experience working with existing databases while being mentored on a culminating project.
- Incorporate public health practices when conducting and interpreting analytic results.
- Describe preferred methodological alternatives to commonly used statistical methods.
- Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.
- Apply basic informatics techniques with vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.

A final paper is the required deliverable for the M.P.H. fieldwork requirement. Students must also demonstrate their proficiency and the application of theory and principles in the paper and demonstrate mastery of the required competencies during the oral defense. The evaluation of the M.P.H. fieldwork practicum experience, therefore, is integrated into the culminating experience requirement.

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
215-204-9659

Chairperson:
Dr. Alice Hausman
hausman@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 ethical issues within the context of spatial investigations of health and disease, both internally through 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 Fields of study: Public Health
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 analyzing 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 (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 affect 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 5303. 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 5304. 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 5305. 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 5306. 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 5307. 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 5308. 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.
Seminor 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 some 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 PBHL 5201 (Epidemiologic Research Methods 1). 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

Pre-requisites: PBHL 5102|May not be taken concurrently
OR PBHL 5201|May not be taken concurrently.

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.