

Program Director

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Mission

The mission of the Department of Environmental and Occupational Health (EOH) is to increase the body of knowledge that addresses the adverse health effects of environmental and occupational exposures; to disseminate knowledge through the education of students and health practitioners; and to apply that knowledge in the clinical, environmental, and workplace settings.

Goal

The goal of the EOH DrPH program is to prepare students for advanced level professional work in research, policy, and program design and administration in the field of Environmental and Occupational Health.

Admissions Requirements

The Doctor of Public Health Program is designed for mid-career professionals seeking to become public health leaders. Applicants who have completed an MPH degree from a Council of Education for Public Health (CEPH) accredited program are strongly preferred for admission to the DrPH Program. Alternatively, applicants with a master's degree in another field may indicate their relevant training, research experience, or educational background comparable to the MPH. Doctoral applicants admitted without an MPH will be required to take additional course work at the graduate level that does not apply toward the minimum 60 credits required for the DrPH. Qualified applicants with degrees from institutions in foreign countries are also eligible for admission. All applicants must submit scores from the Graduate Record Exam (GRE) taken within five years of the date of application. Because admission to this program is highly selective, successful applicants have competitive academic credentials and substantial prior public health professional work experience related to the specialty field to which they are applying.

Competencies

The Doctor of Public Health (DrPH) Program prepares professionals to assume national and international leadership positions in environmental and occupational health, global health, health behavior, and health policy. The field of public health provides unique insights into the complex interrelationships between health, politics, and human development. It enables professionals to address public health issues by marshalling research and analytic skills to develop innovative approaches to understand health and to promote and advocate for improved health outcomes. Upon completion of the DrPH, students in all programs will demonstrate ability in the core competencies listed here:

http://www.gwumc.edu/sphhs/academicprograms/programs/doctor_public_health/Core%20Competencies.pdf

Program-Specific Competencies

On completion of the DrPH Program in Environmental and Occupational Health, students will possess the following functional competencies and subject area knowledge:

- Appropriately apply the fundamental principles of epidemiology, biostatistics, toxicology and exposure assessment, in the comprehensive identification, characterization and assessment of environmental and occupational health risk. Relevant Courses: PubH 6121, 6123, 6124, 6126, 8411, 8412, 8416, 8417, 8418, 8420, 8422, 8423
- Appropriately apply the fundamental principles of epidemiology, biostatistics, toxicology, exposure assessment, risk assessment and risk communication in developing and implementing comprehensive

strategies for the management of environmental and occupational health risk, incorporating the issues associated with the political, social and economic context in which the risk occurs. Relevant Courses: PubH 6121, 6123, 6124, 6126, 8411, 8412, 8414, 8416, 8417, 8418, 8420, 8422, 8423

- Successfully manage an interdisciplinary team of professionals in accomplishing risk analysis (including risk assessment, risk communication and risk management). Relevant Courses: PubH 6122, 6124, 8401, 8402, 8411, 8412, 8414
- Critically assess the basis for the development and implementation of environmental and occupational health policy in the face of inevitable scientific uncertainty, taking into account science and technology, law, politics, economics and human values. Relevant Courses: PubH 6122, 6124, 8401, 8402, 8411, 8412, 8423
- Evaluate the success of environmental and occupational health programs for accomplishing risk analysis objectives. Relevant Courses: PubH 6124, 6126, 8401, 8402, 8411, 8416, 8417, 8418, 8419, 8420, 8422, 8423

Program Policies and Procedures

For program policies and procedures, please refer to the Doctor of Public Health Handbook and other resources, located at <http://www.gwumc.edu/sphhs/academicprograms/drphForms.cfm>



School of Public Health and Health Services

**Doctor of Public Health
Environmental and Occupational Health**

Program at A Glance

Course Distribution Summary

- Total Credits = Minimum 60
- Transfer Credit Maximum = 12
- Required Foundation Courses and Research Methods = 20 credits
- Required Specialty Field Courses = 6 credits
- Specialty Field Electives = 14 to 20 credits
- Professional Leadership = 6 credits
- Dissertation Preparation and Dissertation = 8 to 14 credits

**REQUIRED FOUNDATIONAL COURSES AND RESEARCH METHODS
20 CREDITS**

Course	Title	Credits	Semester Taken/ Proposed	Grade	Waive	Transferred
PubH 8401	Foundations of Public Health Leadership and Practice – Doctoral Seminar	3	Fall Year 1			
PubH 8402	Leadership in Public Health Practice and Policy	2	Spring Year 2			
PubH 8416	Doctoral Research Methods I: Study Design and Evaluation	3	Fall Year 1			
PubH 8417	Qualitative Research Methods and Analysis Prereq: PubH 8416	3	Summer Year 1			
PubH 8418	Doctoral Research Methods II: Statistical Analysis Prereq: PubH 8416	3	Spring Year 1			
PubH 8419	Measurement in Public Health and Health Services Research Prereq: PubH 8418	3	Spring Year 2			
PubH 8420	Doctoral Research Methods III: Advanced Analysis and Dissemination Prereq: PubH 8418, PubH 8417	3	Fall Year 2			

**REQUIRED SPECIALTY FIELD COURSES
6 CREDITS**

Course	Title	Credits	Semester Taken/ Proposed	Grade
PubH 8411	Advanced Topics – Principles of Environmental Health Risk Science – Doctoral Seminar Prereq: PubH 6121, 6123, 6126	3	Year 1 or Year 2	
PubH 8412	Advanced Topics – Environmental and Occupational Health Research and Practice Prereq: PubH 6122	3	Year 1 or Year 2	

**REQUIRED SPECIALTY FIELD ELECTIVE COURSES
14 CREDITS***

*(TAKE UP TO 6 ADDITIONAL ELECTIVE CREDITS IF DISSERTATION CREDITS TOTAL LESS THAN 12)

SAMPLE COURSES BELOW – OTHER COURSES MAY BE TAKEN WITH ADVISOR’S APPROVAL

Course	Title	Credits	Semester Taken/ Proposed	Grade	Waived	Transferred
PubH 6121	Environmental and Occupational Epidemiology	3				
PubH 6122	Protecting Public Health and the Environment: Policies, Politics, Programs	3				
PubH 6123	Toxicology: Applications for Public Health Policy	3				
PubH 6124	Problem Solving in Environmental and Occupational Health	3				
PubH 6125	Introduction to Children’s Health and the Environment	2				
PubH 6126	Assessment and Control of Environmental Hazards	3				
PubH 6127	Applied Environmental Health Microbiology	2				
PubH 6128	Global Environmental and Occupational Health	2				
PubH 6130	Sustainable Energy the Environment	2				
PubH 6199	Topics: Microbial Risk Assessment	1				
PubH 6199	Topics: Pesticide Exposures and Cancer	1				
PubH 6199	Topics: Food and the Global Environment	1				

**PROFESSIONAL LEADERSHIP COURSES
6 CREDITS**

Course	Title	Credits	Semester Taken / Proposed	Waived	Grade
PubH 8413	Research Leadership	Varies			
PubH 8414	Policy/Management Leadership	Varies			
PubH 8415	Instructional Leadership	Varies			

COMPREHENSIVE EXAMINATION

**DISSERTATION PREPARATION AND DISSERTATION
8 TO 14 CREDITS***

Course	Title	Credits	Semester Taken/ Proposed	Grade
PubH 8422	Advanced Health Care and Public Health Research Design Prerequisites: Passing Comprehensive Exams, Approval of the Program Director, and a page-long abstract that includes the following: Student Name, Program Director, Faculty Advisor if different from the Program Director, Title, Objective (including population), Research Methods and Analysis Methods, Anticipated Results/Hypotheses. Grade = Credit/No Credit	2		
PubH 8423	Dissertation Research DrPH Degree Dissertation Research Prereq: PubH 8422	6 to 12 credits required	Multiple – may be taken in increments of 1 to 12 credits	

**DrPH in Environmental and Occupational Health
Course Descriptions**

PubH (221)	6121	Environmental and Occupational Epidemiology	3	Epidemiologic methods for the study of environmental and occupational health problems. Epidemiologic exposure assessment methods and methods relevant to cohort, case-control, cross-sectional, and cluster investigation studies. Sources of and evaluation of biases and confounding, as well as survey and questionnaire design. Prerequisites: PubH 6003, 6002, Fall
PubH (222)	6122	Protecting Public Health and the Environment: Policies, Politics, and Programs	3	Reviews the history, structure and workings of the system through which we attempt to protect public health and the environment, with a particular focus on US regulatory agencies. Prerequisites: PubH 6004, Spring.
PubH (223)	6123	Toxicology: Applications for Public Health Policy	3	Introduction to principles of toxicology with emphasis on concepts most relevant in risk assessment, management, and communication; and public health policy. Prerequisite: Organic Chemistry. Spring
PubH (224)	6124	Problem Solving in Environmental and Occupational Health	3	This culminating course uses problem-based learning methods to examine a variety of real-world EOH issues in depth. Cases stimulate students to integrate their cumulative knowledge across all required courses and demonstrate their professional competencies. Students to conduct activities characteristic of EOH practice: evaluating a variety of technical, public, and media, reports; integrating and interpreting environmental, exposure, and health information effectively; designing analytic and communication strategies; presenting in writing and orally relevant materials to address EOH issues; and, making appropriate policy and/or program decisions and recommendations. Prerequisites: PubH 6121, 6123, 6126. Summer
PubH (225)	6125	Introduction to Children's Health and the Environment	2	Describes the impact of environmental toxicants on children's health and reviews some of the major policy issues in the field of children's environmental health. Prerequisites: PubH 6004. Fall
PubH (226)	6126	Assessment and Control of Environmental Hazards	3	Introduces the anticipation, recognition, assessment, and control of hazards in the workplace and the ambient environment. It emphasizes an understanding of the characteristic features of specific hazards, which may be chemical, biological, or physical/ergonomic. Fall
PubH (227)	6127	Applied Environmental Health Microbiology	2	Basics of public health microbiology as it relates to the environment, food, water, and bioterrorism. Examines from an environmental health perspective how the principles of microbiology are applied to current and emerging public health issues, whether from intentional or unintentional contamination of the environment. Specific topics will include: industrial animal production and increasing prevalence of antibiotic resistance; effectiveness of various point of use technologies for water purification; recent advances in quantitative microbial risk assessment; one medicine (where public and veterinary health meet); detection strategies for microorganisms (including bioterrorism agents); and current approaches in food defense and agroterrorism. At the end of the semester, students will be able to: describe key environmental health microbiological agents; identify why particular microbes are persistent in the environment; and outline public health measures, policies, and regulations available to address threats associated with these microbial agents. Prerequisites: PubH 6004. Spring
PubH (228)	6128	Global Environmental and Occupational Health	2	Examines environmental and occupational health issues at various stages in the development process. Emphasis will be placed on principles of development economics and associated environmental health issues. Prerequisites: PubH 6004. Fall
PubH (230)	6130	Sustainable Energy and the Environment	2	Public Health professions play a vital role in shaping sustainable energy strategies in the context of environment & human health impacts. Sustainability of various energy strategies including energy conservation, green building principles and renewable energy. Mitigation & adaption policies for climate change. Emphasizes the life cycle framework which focuses on natural resource depletion, water & energy consumption as well as air, water & solid waste pollutant emissions. Prerequisite: PubH 6004. Spring
PubH (402)	8401	Foundations of Public Health Leadership and Practice-	3	This interactive seminar course provides doctoral students a fundamental understanding of the history and current issues associated with the four principal program areas: Health Policy, Health Behavior, Global Health &

		Doctoral Seminar		Environmental & Occupational Health. Fall
PubH (401)	8402	Leadership in Public Health Practice and Policy	2	Principles of public health practice and policy with a focus on the interdisciplinary and strategic application of skills, knowledge and competencies necessary both to perform public health core functions and to enhance the capacity to perform these functions. Spring
PubH (403)	8419	Measurement in Public Health and Health Services Research	3	In this course students review principles of measurement and assessment as they apply to public health and health services research constructs, review existing state-of-the-art measures of individual and population health status (e.g., morbidity, mortality, functioning and health-related quality of life) and of individual and community health behavior, and explores current measurement issues in health research. Prerequisite: PubH 8418. Spring
PubH (407)	8411	Advanced Topics - Principles of Environmental Health Risk Science	3	Environmental health (EH) risk analysis paradigms and the sciences that contribute to recognizing, characterizing, and responding to EH risks. The strengths and weaknesses of the fundamental principles, methods, and products of these sciences will be explored through discussion of case studies and current issues. A range of EH problems will be used to illustrate scientific conflicts and variations in practical applications. Prerequisite: PubH 6121, 6123, 6126 or instructor's permission. Fall
PubH (411)	8412	Advanced Topics - Environmental and Occupational Health Research and Practice	3	Discussion of case studies emphasizing study design, methods, measurements, ethical issues, and procedures. Focus on interdisciplinary research, practice, & policy strategies appropriate for workplace and community settings. Prereq: PubH 6122 or instructor's permission. Fall
PubH (412)	8415	Instructional Leadership	1 to 6	Students participate in a range of activities designed to develop and enhance their teaching skills. These activities include course development, teaching master's level courses, acting as TA for undergraduate courses, advising students about their class performance, evaluating student performance, and developing remedial programs for students.
PubH (413)	8413	Research Leadership	1 to 6	Students participate in a range of activities designed to develop and enhance their research methods and analytic skills. These activities include participating in the development and submission of sponsored research proposals; being formally affiliated with a research project, assuming responsibility for completing a real-world research project; engaging in empirical data collection and analysis efforts.
PubH (414)	8414	Policy/Management Leadership	1 to 6	Students participate in a range of activities designed to develop and enhance their management, leadership and policymaking skills as applied to problem solving in real-world settings, such as public health departments, community health centers, legislative settings, and public or teaching hospitals.
PubH (415)	8417	Qualitative Research Methods and Analysis	3	Techniques for designing and conducting qualitative research and for analyzing and reporting qualitative data relevant to program development and implementation, community assessment, and policy analysis. Prerequisite: PubH 8416. Summer
PubH (416)	8416	Doctoral Research Methods I: Study Design and Evaluation Research	3	Prepares doctoral students to design and conduct program and policy evaluation in public health. Intensive introduction to the principles of study program design and evaluation research emphasizing the ability to synthesize the population-based intervention literature, apply planning and management methods, describe and apply research methods from a range of disciplines, and prepare a program research proposal. Fall
PubH (417)	8422	Advanced Health Care and Public Health Research Design	2	Design of protocol suitable for implementation as part of Doctor of Public Health dissertation requirement. Prerequisites: Passing Comprehensive Exams, Approval of the Program Director, and a page-long abstract that includes the following: Student Name, Program Director, Faculty Advisor if different from the Program Director, Title, Objective (including population), Research Methods and Analysis Methods, Anticipated Results/Hypotheses. Grade = Credit/No Credit. Fall, Spring
PubH (418)	8423	Dissertation Research	1 to 12	Dissertation Research for DrPH. Prereq: PubH 8422.
PubH (419)	8418	Doctoral Research Methods II: Statistical Methods	3	Intensive course in data management and data analysis using STATA®. Database management system techniques and data analytical strategies for the appropriate analysis of data sets obtained from a variety of studies will be presented. The student will manipulate national data sets from epidemiological studies as well as Demographic and

				Health Survey (DHS) data. Prereq: PubH 8416. Spring
PubH (420)	8420	Doctoral Research Methods III: Advanced Analysis and Dissemination	3	Advanced multivariate data analyses of complex datasets and programs, including advanced cross-sectional techniques, time-series analysis, and the use of panel data. Evaluation of results, and dissemination of findings to relevant stakeholders. Prereq: PubH 8417, 8418. Fall