

Milken Institute School of Public Health

THE GEORGE WASHINGTON UNIVERSITY

Milken Institute School of Public Health

Master of Public Health MPH@GW
Climate and Health Concentration

MPH@GW Program Director

George Gray, PhD
Associate Dean for MPH Programs
Professor, Department of Environmental and Occupational Health
Milken Institute School of Public Health
The George Washington University
950 New Hampshire Avenue
Washington, DC 20052
P: 202-994-7993 E: gmgray@gwu.edu

Climate and Health Concentration Coordinator

Susan Anenberg, PhD
Associate Professor and Chair of Environmental and Occupational Health
Director, GW Climate and Health Institute
Milken Institute School of Public Health
George Washington University
1-202-994-2392
sanenberg@gwu.edu

Concentration Mission Statement

The Mission of the Climate and Health MPH program is to train individuals to assess environmental exposures and public health risks associated with anthropogenic climate change, and to mitigate these health risks through taking a systems approach that considers crisis phenomena, such as COVID-19, climate-sensitive programming, and public policies.

Concentration Description

Our graduates will hold a multidisciplinary knowledge base and skillset that will provide them a framework for transforming how health issues associated with anthropogenic climate change and global environmental change are addressed. They will understand the scientific foundations of climate change and environmental health, the social dimensions of health risks associated with climate change, the policies and practices that can mitigate these health risks, and how to communicate about these subjects. Graduates will be able to:

- ◆ Analyze health risks from anthropogenic climate change and global environmental change using methods and research findings from the epidemiological, environmental exposure assessment, and implementation sciences;
- ◆ Communicate about the effects of climate change and environmental degradation to varied audiences, including both technical and non-technical audiences; and

- ◆ Manage diverse teams to design, implement, and evaluate actions to advance systemic change towards mitigating health risks from climate change and environmental degradation, for example through governmental mitigation and adaptation policies, urban planning, public engagement, corporate action, and finance.

Graduates from this program will be prepared for leadership careers in catalyzing systemic change that mitigates health risks from climate change and environmental degradation. Career paths include government, non-governmental organizations, research and academia, multilateral organizations, media, consulting, and industry – graduates can work wherever solutions to climate change and environmental health happen.

Course Requirements

All Milken Institute School of Public Health (GWSPH) MPH students who select the distance education track enroll in Core Courses (17 credits), Program-Specific Courses (21 credits), and Electives (5 credits). The total 45 credit degree program also includes a Culminating Experience (2 credits).

Note that the MPH@GW track will be taught in 10 week quarters throughout the calendar year (4 quarters per year). Each course will be designed to deliver the required credit hours within the 10 week quarter format, with existing courses being formatted to meet this requirement.

As an accredited School of Public Health, students in all GWSPH MPH programs are also required to fulfill both an interprofessional team experience and an applied practice experience. GWSPH has incorporated these requirements into the curriculum as follows:

Interprofessional Education (IPE) Experience (PUBH 6023):

MPH students are required to select an IPE experience from a host of options provided throughout enrollment to participate in a one-time, case-based or activity-based learning experience. The IPE experience is a way to actively participate in a supervised environment to work with people from other professions/programs outside of public health. Students are eligible to enroll in the IPE upon successful completion of most of the MPH core coursework including: PUBH 6002, 6003, 6007, 6011, 6012 and 6021. Students will have many opportunities to register for this zero-credit (no fee) IPE course (PUBH 6023- Interprofessional Education Experience) and will receive credit upon successful completion.

Applied Practice Experience (Practicum & EPR) (PUBH 6000):

The Applied Practice Experience (APEX) may be satisfied with either a practicum or, for experienced public health professionals, through an expedited portfolio review (EPR).

The practicum is a planned, supervised, and evaluated practice experience that aims to provide students with an opportunity to synthesize, integrate, and apply practical skills, knowledge, and training learned through courses, to gain applied experience in a professional public health work environment, and to work on public health practice projects that are of particular interest to you. Information about the Practicum will be introduced through school-wide Practicum Information Sessions held by the Office of Applied Public Health and through meetings with your department practicum staff and faculty.

During the practicum, you will work at least 120 hours in the field under the supervision of the site preceptor who has agreed to directly supervise the work you are conducting. Students are required to fulfill all requirements of the 120-hour practicum to receive credit for PUBH 6000.

If you have had prior work experience, then you will find that the practicum provides the opportunity to hone skills or to gain new experience in a different area. However, if you have substantial public health experience relevant to your department/track, including 5+ years of full-time public health work for students after receiving your undergraduate degree, or 3+ years of full-time work for students who already have a graduate degree prior to beginning the MPH, then you may be able to satisfy the APEx requirement through an EPR instead of doing the practicum, with advanced approval by your department's practicum team.

Course Sequencing

Students will begin by taking the core MPH courses. Full-time students should plan to take PUBH 6021 and PUBH 6003 in their first quarter and complete all core courses within the first three quarters. Part-time students should consult with their academic advisor to select an appropriate sequence of courses. Following completion of the core MPH courses, students should complete the MPH@GW program specific courses, and finish with their elective selections. Courses offered in the online format can be found on the GW Schedule of Classes under Online and are designated with a "U" in the section number.

Following completion of the core MPH courses, students who elect the Climate and Health (CH) concentration will take four MPH@GW required courses (PUBH 6442, 6500, 6133 and 6552). and five required CH concentration courses (PUBH 6128, 6136, 6135, 6140, 6130). In addition, they will take at least 5 elective credits.

The following are examples of electives that are currently offered online. New courses are added frequently. Additional electives may be taken in the residential program provided pre-requisites have been met. The list of electives will be updated as new courses become available.

- PUBH 6054, Community Engagement & Advocacy (2)
- PUBH 6058, Researching Violence Against Women and Girls (2 credits)
- PUBH 6132, Water, Sanitation, & Hygiene (WASH) in Low-Income Countries (2 credits)
- PUBH 6335, Public Health and Law (3 credits)
- PUBH 6368, Law, Medicine, and Ethics (3 credits)
- PUBH 6390, Prescription Drugs, Policy and Public Health (3 credits)
- PUBH 6400, Global Health Frameworks (2 credits)
- PUBH 6450, Global Health Diplomacy (2 credits)
- PUBH 6451, Sexual and Reproductive Health Monitoring (2 credits)
- PUBH 6452, Social and Behavior Change Communication in Middle-to Low-Income Countries (2 credits)
- PUBH 6455, Global Vaccinology (3 credits)
- PUBH 6480, Public Health in Humanitarian Settings (2 credits)
- PUBH 6486, Global Health Programs and Approaches to the Control of Infectious Diseases (2 credits)
- PUBH 6489, Evaluation of Nutrition Program (1 credit)
- PUBH 6508, Cost Effectiveness Analysis of Health Promotion Interventions (3 credits)
- PUBH 6514, Preventing Health Disparities (2 credits)
- PUBH 6530, Qualitative Methods in Health Promotion (2 credits)
- PUBH 6552, Women's Health (2 credits)
- PUBH 6563, Global Child Health (2 credits)

- PUBH 6571, Social Marketing (3 credits)
- PUBH 6572, Marketing and Research for Public Health (3 credits)
- PUBH 6612, Food Systems in Public Health (2 credits)
- PUBH 6619, Fundamentals of Nutrition Science (3 credits)

Core Competencies

Upon completion of the program, students should possess the following functional competencies:

- Apply epidemiological methods to the breadth of settings and situations in public health practice
 - PUBH 6003
- Select quantitative and qualitative data collection methods appropriate for a given public health context
 - PUBH 6002, PUBH 6003, PUBH 6009
- Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
 - PUBH 6002, PUBH 6009
- Interpret results of data analysis for public health research, policy or practice
 - PUBH 6002, PUBH 6003, PUBH 6009
- Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
 - PUBH 6012
- Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels
 - PUBH 6007
- Assess population needs, assets, and capacities that affect communities' health
 - PUBH 6003, PUBH 6007
- Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
 - PUBH 6007, PUBH 6021, PUBH 6022
- Design a population-based policy, program, project or intervention
 - PUBH 6007
- Explain basic principles and tools of budget and resource management
 - PUBH 6022
- Select methods to evaluate public health programs
 - PUBH 6009
- Discuss multiple dimensions of the policy making process, including the roles of ethics and evidence
 - PUBH 6011, PUBH 6012
- Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
 - PUBH 6022
- Advocate for political, social or economic policies and programs that will improve health in diverse populations
 - PUBH 6022
- Evaluate policies for their impact on public health and health equity
 - PUBH 6012

- Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making
 - PUBH 6021, PUBH 6022
- Apply negotiation and mediation skills to address organizational or community challenges
 - PUBH 6021, PUBH 6022
- Select communication strategies for different audiences and sectors
 - PUBH 6021, PUBH 6022
- Communicate audience-appropriate public health content, both in writing and through oral presentation
 - PUBH 6012, PUBH 6021, PUBH 6022
- Describe the importance of cultural competence in communicating public health content
 - PUBH 6021, PUBH 6022
- Perform effectively on interprofessional teams
 - PUBH 6021, PUBH 6023
- Apply systems thinking tools to a public health issue
 - PUBH 6007, PUBH 6011, PUBH 6022

MPH@GW Program Competencies

Upon completion of the program, students should possess the following functional competencies:

- Define communities and identify and assess relevant population health needs (e.g., PUBH 6133).
- Assess the functions, capacities, management and governance of governmental, international and non-state organizations that comprise health systems. Translate scientific and program evidence to inform the development of public health programs and policies within the context of health systems (e.g., PUBH 6442).
- Apply public health theory and experiential evidence to develop and manage project, program and institutional strategies to reduce community and individual health risks to mitigate the impact of disease (e.g., PUBH 6500).
- Apply relevant quantitative tools and concepts to inform different audiences and public health topics (e.g., PUBH 6052).
- Describe how health systems performance is affected by various approaches to health care organization, health law, health workforce development and health care financing (e.g., PUBH 6442).
- Develop communication campaigns and strategies to disseminate health promotion information through media channels (e.g., PUBH 6133).

CH Concentration Competencies

Upon Completion of the MPH Program in Climate and Health, students should possess the following functional competencies.

Critique existing epidemiologic research investigating environmental and occupational health problems, including summarizing methods and results and evaluating biases.

Relevant courses:

- PUBH 6135 Researching Climate Change and Human Health
- PUBH 6136 Environmental and Occupational Epidemiology

Assess environmental and occupational exposures that are linked with climate change and evaluate health hazards associated with them.

Relevant courses:

- PUBH 6128 Global Environmental and Occupational Health
- PUBH 6140 Global Climate Change and Air Pollution

Identify scientific approaches for studying the effects of climate change on human health.

Relevant courses:

- PUBH 6135 Researching Climate Change and Human Health

Communicate the effects of climate change and sustainability actions on public health to varied audiences.

Relevant courses:

- PUBH 6133 Social Dimensions in Climate Change and Health

Recommend strategies to prevent and control environmental and occupational exposures that are linked with climate change.

Relevant courses:

- PUBH 6128 Global Environmental and Occupational Health
- PUBH 6130 Sustainable Energy and the Environment
- PUBH 6133 Social Dimensions in Climate Change and Health
- PUBH 6140 Global Climate Change and Air Pollution

Example Culminating Experiences:

- Cookstoves, Greenhouse Gasses, and Global Climate Change: A Case Study in sub-Saharan Africa
- Climate & Vector-Borne Disease: A systematic review with a focus on Dengue, Yellow Fever, Chikungunya & Zika
- Extreme Heat Exposure and Adverse Birth Outcomes: A Systematic Review
- Impact of Green Space Access and Exposure on Depression: A Systematic Review
- Recognizing and Managing Valley Fever in the Southwest U.S.
- Valley Fever: Challenges to Developing Knowledge around a Cryptic Disease
- Perceptions of and Motivation for Climate Change Adaptation in Six United States Cities
- Climate Change, Natural Disasters, and Suicide: A Systematic Review
- An Assessment of Life Cycle Greenhouse Gas Emissions Associated with the Use of Water, Sand, and Chemicals in Shale Gas Production of the Pennsylvania Marcellus Shale
- Preparing for Extreme Heat Events: Practices in Identifying Mortality
- Solar Power Capacity on GWU Foggy Bottom Campus Rooftops
- Federal Worker Commuter Choices, Greenhouse Gas Emissions, and Implications for Public Health
- Health Benefits of Increased Physical Activity from Active Transportation Mode Shifting in Cities
- Heat Exposure and Health Inequality in the Nation's Capital
- Mental Health Benefits from Increased Access to Green Space in Urban Areas
- Health Considerations in Urban Climate Action Plans among U.S. Cities

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Required MPH Core Courses- 17 credits		Credits	Quarter Offered
PUBH 6000	MPH Applied Practice Experience	0	All
PUBH 6002	Biostatistical Applications for Public Health	3	All
PUBH 6003	Principles and Practice of Epidemiology	3	All
PUBH 6007	Social and Behavioral Approaches to Public Health	2	All
PUBH 6009	Fundamentals of Program Evaluation	2	
PUBH 6011	Environmental & Biological Foundations of Public Health	3	All
PUBH 6012	Fundamentals of Health Policy: Public Health and Healthcare	2	All
PUBH 6021	Essentials of Public Health Leadership & Practice 1: Leading Self and Teams in Public Health	1	All
PUBH 6022	Essentials of Public Health Leadership & Practice 2: Managing Organizations & Influencing Systems in PH	1	All
PUBH 6023	Interprofessional Education Experience (IPE)	0	All
Required MPH@GW Program Specific Courses- 10 credits		Credits	Quarter Offered
PUBH 6052	Practical Data Management and Analysis for Public Health	2	All
PUBH 6442	Comparative Global Health Systems	2	All
PUBH 6500	Planning & Implementation of Health Promotion Programs	3	All
PUBH 6503	Introduction to Public Health Communication and Marketing	3	All
Required Concentration Courses- 12 credits		Credits	Quarter Offered
PUBH 6136	Environmental and Occupational Epidemiology	3	Online Fall
PUBH 6128	Global Environmental and Occupational Health	2	Online Spring I
PUBH 6135	Researching Climate Change and Health	3	Online Spring I
PUBH 6140	Global Climate Change and Air Pollution	2	Online Fall
PUBH 6130	Sustainable Energy and the Environment	2	Online Summer
Electives		Credits	Quarter Offered
Any PUBH 6xxx level course	MPH@GW electives or on-campus^ electives where applicable	4	Varies-see advisor
MPH@GW Culminating Experience Courses		Credits	Quarter Offered
PUBH 6060	MPH@GW Culminating Experience I	1	All
PUBH 6061	MPH@GW Culminating Experience II	1	All
Course Distribution		Credits	
Public Health Core Courses		17	
Culminating Experience		2	
MPH@GW Requirements		10	
Required Concentration Courses		12	
Electives		4	
Total Degree Credits		45	

^ MPH@GW students may take up to 15 credits on-campus.

UPDATED October 2025

Graduation Requirements MPH

1. **Graduate Credit Requirement:** 45 graduate credits are required.
2. **Course Requirements:** Successful completion of the Core Courses and the Program-Specific Courses are required.
3. **Practicum Requirement:** Students are required to fulfill all requirements of the Applied Practice Experience.
4. **Interprofessional Education Experience (IPE):** Students are required to enroll, participate and complete an authorized IPE activity (PUBH 6023).
5. **Grade Point Requirement:** A 3.0 (B average) overall grade point average is required.
6. **Time Limit Requirement:** The degree must be completed within five years.
7. **Transfer Credit Policy:** Up to 12 graduate credits that have not been applied to a previous graduate degree may be transferred to the MPH upon approval. Credits must have been earned from an accredited institution in the last 3 years with a grade of B or better (grade point of 3.0 and higher).
8. **CITI Training requirement:** All students are required to complete training regarding human subject protection regulation and the Health Insurance Portability and Accountability Act of 1996 (HIPAA). To fulfill this requirement, you must complete the Collaborative IRB Training Initiative (CITI) Course in The Protection of Human Research Subjects.
9. **Integrity Quiz & Plagiarism requirement:** All students are required to review the George Washington University Code of Academic Integrity and take the quiz within their first semester of study. The Code of Integrity and step-by-step instructions can be found here: <http://publichealth.gwu.edu/integrity>.
10. **Professional Enhancement requirement:** Students must participate in 8 hours per degree program of Public Health-related lectures, seminars, and symposia related to your field of study. Professional Enhancement activities supplement the academic curriculum and help prepare students to participate actively in the professional community. Opportunities for professional enhancement are regularly publicized via the Milken Institute SPH Listserv and through your department or advisor. Students must submit documentation of Professional Enhancement activities to the Office of Student Records. Find the Professional Enhancement submission form [here](#) and include a description of the program agenda and proof of attendance.

Course Descriptions and Registration information can be found on in the University Bulletin [here](#).