

# ENVIRONMENTAL AND OCCUPATIONAL HEALTH, CERTIFICATE

## Environmental and Occupational Health Certificate Program

**NOTE: This certificate program may be complete entirely online!**

### OVERVIEW

The certificate program educates and trains students to identify major environmental health issues facing public health professionals today. Courses explore the sources of environmental agents, their distribution in community and work environments, transfer routes to humans and possible health effects; the basic biological mechanisms underlying the association between prior exposure and subsequent development of adverse health effects; and control strategies and interventions.

### EDUCATIONAL OBJECTIVES

1. Define the major environmental agents that cause adverse effects on human health, and their sources
2. Identify the carriers or vectors that promote the transfer of these agents from the environment to the human
3. Describe various risk management approaches both in the workplace and in the environment
4. Develop and discuss strategies that effectively mitigate and prevent adverse health effects caused by environmental and/or occupational agents and conditions
5. Illustrate how concepts such as exposure assessment, the hierarchy of controls, biological monitoring, medical screening and surveillance are used to prevent occupational injuries and illnesses
6. Identify and describe important current and emerging environmental and/or occupational problems that pose a risk to public health.

### CONTACT INFORMATION

**Sponsoring Department**  
Environmental Health and Engineering

### ADMISSIONS

Complete information about applying to the certificate program can be found on the Bloomberg School of Public Health certificate program webpage (<https://publichealth.jhu.edu/academics/environmental-and-occupational-health-certificate-program/>).

### REQUIREMENTS FOR SUCCESSFUL COMPLETION

The certificate requires a minimum of 18 term credits. All required and elective courses must be taken for a letter grade; a minimum grade of C is required in all certificate coursework and students must maintain a 2.75 or better overall GPA for all certificate coursework. The certificate program length is flexible, however the certificate must be completed within three years.

The student should review the section of the website that addresses completion ([https://www.jhsph.edu/academics/certificate-programs/JHSPH\\_certificate\\_completion.html](https://www.jhsph.edu/academics/certificate-programs/JHSPH_certificate_completion.html)) before completing

certificate program requirements. The student's transcript will not indicate that the certificate was earned until the Notification of Completion has been submitted and verified by the certificate program and processed by the Registrar.

### COURSE OF STUDY

Students should check the JHSPH course directory (<http://www.jhsph.edu/courses/>) to confirm when courses are offered.

Students should also check for pre-requisites and if instructor consent is required.

Code	Title	Credits
PH.550.860	Academic & Research Ethics at BSPH (All students are required to complete this online noncredit course in their first term of study)	

#### Required courses- Students must complete 3 of the following 6 course selections; students may complete either 180.601 or 180.609, but not both

PH.180.601	Environmental Health (typically offered online in 3rd term, and onsite in Summer and Summer Institutes)	5
PH.180.609	Principles of Environmental Health (typically offered onsite in 1st term)	4
PH.182.625	Principles of Occupational and Environmental Hygiene (typically offered onsite in 2nd term and online in 2nd and 4th terms)	4
PH.187.610	Public Health Toxicology (typically offered online in 2nd term)	4
PH.187.650	Alternative Methods in Animal Testing (typically offered online in 4th term)	3
PH.188.680	Fundamentals of Occupational Health (typically offered online in 1st term)	3

#### Elective Courses- Students must complete 2-3 courses from the list below to meet the 18 credit minimum required for the certificate program

<i>Sustainability/Climate Change</i>		
PH.180.607	Climate Change and Public Health (typically offered onsite in 4th term)	3
PH.180.611	The Global Environment, Climate Change, and Public Health (typically offered onsite in 1st term)	4
PH.180.619	Drinking Water and Water Policy: Avoiding Another Flint (typically offered onsite in Summer Institute)	1
PH.180.647	The Health Effects of Indoor and Outdoor Air Pollution (typically offered online in 4th term)	3
PH.180.651	Energy, Environment, and Public Health (typically offered onsite in 3rd term and online in 4th term)	2
PH.180.653	Climate Change: Avoiding Conflict and Improving Public Health (typically offered online in 4th term)	3
PH.185.600	One Health Tools to Promote and Evaluate Healthy and Sustainable Communities (typically offered online in 4th term)	3
PH.185.601	One Health Seminar (typically offered onsite in 4th term)	1
PH.188.682	A Built Environment for A Healthy and Sustainable Future (typically offered online in 4th term)	3
PH.188.688	Global Sustainability & Health Seminar (typically offered onsite in 4th term)	1

<i>Food Systems/Water</i>		PH.180.624	Biotechnology and Health Security (typically offered online in 1st term and onsite in 3rd term )	3	
PH.180.606	Case Studies in Food Production and Public Health (typically offered online in 4th term)	4	PH.180.627	Lessons Learned in 1918 Pandemic Flu (typically offered onsite in 4th term)	1
PH.180.614	Urban Agriculture and Public Health (typically offered onsite in Summer Institute)	2	PH.180.630	Chemical and Biological Weapons Threats: Science, Public Health, Policy (typically offered onsite in 4th term)	3
PH.180.620	Introduction to Food Systems and Public Health (typically offered online in 2nd term)	4	PH.180.633	The Sociocultural Dimensions of Disasters (typically offered onsite in 4th term)	3
PH.180.644	Food System Resilience to Disasters: COVID-19, Climate Change, and Beyond (typically offered online in 4th term)	2	PH.180.634	Public Health Emergencies: Risk Communication and Decision Science (typically offered online in 1st term and onsite in 4th term)	3
PH.180.655	Baltimore Food Systems: A Case Study of Urban Food Environments (typically offered onsite in 3rd term)	4	PH.180.670	Introduction to Public Health Emergency Preparedness (typically offered onsite in 4th term)	3
PH.182.626	Issues for Water and Sanitation in Tropical Environmental Health (typically offered onsite in 3rd term)	2	<i>Environmental Law/Environmental Justice</i>		
PH.182.640	Food- and Water- Borne Diseases (typically offered onsite in 3rd term)	3	PH.180.600	Public Health Implications of Health as a Human Right (typically offered onsite in Winter Institute)	2
<i>Occupational Hygiene/Safety/Occupational Health</i>			PH.180.602	Environment and Health in Low and Middle income Countries (typically offered onsite in 3rd term)	2
PH.180.621	Protecting the Environment and Safeguarding Worker Health: A Problem-Based Approach (typically offered online in 2nd term)	3	PH.180.625	Community-Driven Epidemiology and Environmental Justice (typically offered onsite in 3rd term)	3
PH.182.613	Exposure Assessment Techniques for Health Risk Management (typically offered onsite and online in 3rd term)	3	PH.180.626	Environmental Justice and Public Health Practice (typically offered online in 2nd term)	3
PH.182.614	Industrial Hygiene Laboratory (typically offered onsite in 2nd term and onsite in Summer Institute every other year)	5	PH.180.628	Introduction To Environmental and Occupational Health Law (typically offered online in 4th term)	4
PH.182.615	Airborne Particles (typically offered online in 3rd term)	4	PH.340.680	Environmental and Occupational Epidemiology (typically offered onsite in 4th term)	4
PH.182.621	Introduction to Ergonomics (typically offered onsite in 2nd term)	4	<i>Toxicology/Physiology/Molecular Mechanisms</i>		
PH.182.622	Ventilation and Hazard Control (typically offered online in term 1)	4	PH.180.632	Introduction to Molecular Toxicology (typically offered online in 4th term)	3
PH.182.623	Occupational Health Management (typically offered online in 3rd term)	3	PH.180.637	Refinement of Animal Experimentation: Essential to Reduce Animal Suffering and Enhance Scientific Rigor (typically offered onsite in 3rd term)	2
PH.182.625	Principles of Occupational and Environmental Hygiene (typically offered on site in 2nd term and online in 4th term)	4	PH.180.638	Animals in Research: Ethics (typically offered in 4th term)	1
PH.182.637	Noise and Other Physical Agents in the Environment (typically offered onsite in 2nd term and online in 3rd term)	4	PH.180.640	Molecular Epidemiology and Biomarkers in Public Health (typically offered onsite in 3rd term and online in 4th term)	4
PH.185.600	One Health Tools to Promote and Evaluate Healthy and Sustainable Communities (typically offered online in 4th term)	3	PH.180.650	Fundamentals of Clinical Oncology for Public Health Practitioners (typically offered onsite in 2nd term)	3
PH.188.680	Fundamentals of Occupational Health (typically offered online in 1st term)	3	PH.183.631	Fundamentals of Human Physiology (typically offered onsite in 2nd term and online in 4th term)	4
PH.188.681	Onsite Evaluation of Workplace and Occupational Health Programs (typically offered onsite in 4th term and onsite in Summer Institute every other year)	5	PH.183.638	Mechanisms of Cardiopulmonary Control (typically offered onsite in 3rd term)	2
PH.188.694	Health of Vulnerable Worker Populations (typically offered online in 1st term)	3	PH.183.642	The Cardiopulmonary System Under Stress (typically offered onsite in 4th term)	2
<i>Health Security/Infectious Diseases</i>			PH.187.625	Animals in Research: Law, Policy, and Humane Sciences (typically offered online in 4th term)	3
PH.180.623	Infectious Disease Threats to Global Health Security (typically offered online in 3rd term)	3	PH.187.633	Introduction to Environmental Genomics and Epigenomics (typically offered onsite in 4th term)	3
			PH.187.634	Analysis for Environmental Genomics and Epigenomics (typically offered onsite in 4th term)	1
			PH.187.640	Toxicology 21: Scientific Foundations (typically offered onsite in 2nd term)	1

PH.187.645	Toxicology 21: Scientific Applications (typically offered online in 3rd term)	3
PH.187.650	Alternative Methods in Animal Testing (typically offered onsite in 4th term)	3
PH.187.655	Evidence-Based Toxicology (typically offered online in 4th term)	3
PH.187.661	Environmental Health in Neurological and Mental Disorders (typically offered online in 4th term)	3
PH.188.686	Clinical Environmental and Occupational Toxicology (typically offered onsite in 3rd term)	3