

### Program Director

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### Mission

This graduate certificate program is intended for beginning and mid-career professionals on a career path that combines management of emergency services and disaster relief with the rapid assessment of health concerns and restoration of essential public health services. It requires a minimum of 20 credits. At the completion of the program, individuals will have the skills required to manage basic functions in the coordinated health response to disasters, crises and humanitarian emergencies.

### Background

The School of Public Health and Health Services (SPHHS) offers the Public Health and Emergency Management Graduate Certificate with an emphasis on public health aspects. The minimum requirements are as follows: 20 credit hours are required (more may be taken), of which at least half of the total (minimum 10 for a 20 credit-hour program) must be earned in courses in the SPHHS. The completion of this certificate might, for example, require 12 credits in public health, 6 credits in Engineering Management and Systems Engineering (EMSE), and 3 credits in Emergency Health Services, for a total of 21 credit hours for students who follow the model program and do not make substitutions. Students who have completed the program-specific courses or their equivalent may substitute other approved courses with their advisor's approval. All the public health core courses and some elective credits are transferable to the MPH in either the Environmental and Occupational Health track or the Global Health track.

The School of Engineering and Applied Sciences (SEAS) offers two additional certificate programs, which are described on their website. Their Graduate Certificate Emergency Management and Public Health places a greater emphasis on engineering and management. They also offer a Graduate Certificate in Homeland Security Emergency Preparedness. For further information, contact SEAS (see end of document).

The history and justification for this graduate certificate program is described in full the following publication: Guidotti TL, Barbera JA, Harrald J. The rationale for cross-training in emergency management, public health: new certificate program. *J Emergency Management* 2003;1(1):62-64.

### Admissions Requirements

The Graduate Certificate Program is tailored to meet the needs of the professional public health provider. Those with a master's degree or higher who wish to gain knowledge and skills in a particular area of public health and MPH students in one department who wish grounding in the subject of another department are also eligible. Applicants without a master's degree (such as public health nurses) may be eligible, provided that they hold a bachelor's degree and depending upon their professional experience in public health

Admissions requirements and application procedures for the Graduate Certificate programs are identical to those of the Master's degree programs. Please see this website: <http://www.gwumc.edu/sphhs/admissions/gradadmis.cfm>

### Careers

The certificate is expected to appeal to students who are currently employed or wish to be employed by civilian organizations (designated NGOs, public crisis and emergency management agencies, corporations facing security issues, voluntary organizations focused on crisis response, health care institutions) and military agencies (operational, peacemaking and peacekeeping). This certificate prepares graduates for positions at an entry level or above involving preparation and management of responses to crises including anticipated emergencies and actualized emergencies and the provision of humanitarian assistance. Emphasis is placed on the role of public health professionals in mitigation, preparedness, response, recovery, and documentation of an evolving emergency.

## **Competencies**

On successful completion of the certificate program, the learner will be able to perform the following essential functions:

- ◆ Rapidly assess the public health needs of a population affected by an emergency and make recommendations on appropriate response.
- ◆ Perform effectively in an assigned public health leadership role within the Incident Command System.
- ◆ Describe the characteristics and risks of common hazards and make recommendations for their effective control.
- ◆ Communicate as spokesperson and design an effective communications strategy for public information before and during an emergency.
- ◆ Manage compliance with applicable regulations in emergency management and preparedness.

## **Building an Area of Interest**

The certificate does not have specialized tracks. Students who have particular interests, professional responsibilities or career commitments may wish to select elective courses that build expertise in a particular area of practice, such as:

1. Emergency management services within a local or state department of health.
2. Global health and managing disaster response
3. Homeland security and public safety

Speak to your advisor, employer or a mentor in the field for guidance on whether a particular course's content is appropriate to your professional objectives.

For further information view these websites:

School of Public Health and Health Services [www.gwumc.edu/sphhs](http://www.gwumc.edu/sphhs)

Graduate certificate program available through SEAS <http://www.gwu.edu/~icdrm/programs/certificate.html>

School of Engineering and Applied Science [www.seas.gwu.edu](http://www.seas.gwu.edu)

Institute for Crisis, Disaster, and Risk Management [www.seas.gwu.edu/~icdm](http://www.seas.gwu.edu/~icdm)

Department of Engineering Management and Systems Engineering [www.emse.gwu.edu](http://www.emse.gwu.edu)

<b>Program-Specific Courses</b>		<b>Credits</b>	<b>Semester Offered</b>	<b>Grade</b>
One-half of credits required to be in PubH courses. Remainder may be earned through courses in PubH, Emergency Health Services (EHS) or Emergency Management and Systems Engineering (EMSE)				
PubH 226	Assessment and Control of Environmental Hazards	3	Fall	
PubH 228 <i>or</i>	Global Environmental and Occupational Health (for students who have taken PubH 204)	3	Fall Alternate Years	
PubH 204	<i>or</i> Environmental and Occupational Health in a Sustainable World	2	or Summer 1, Fall, Spring	
PubH 321 <i>or</i> EHS 201	Global Health Frameworks <i>or</i> Response to High-Impact Emergencies	3	Fall, Spring Fall	
EHS 275	Leadership and Change in Emergency Services Management	3	Spring	
EMSE 232	Crisis and Emergency Management	3	Fall	
EMSE 239	Medical and Public Health Emergency Management	3	Spring	
Elective(s)	Courses from lists below	3 or 2		
<b>Sample PubH courses that may with advisor approval be substituted for the PubH courses above or used as electives.</b>		<b>Credits</b>	<b>Semester Offered</b>	<b>Grade</b>
PubH 223	Principles of Environmental and Occupational Toxicology	3	Fall	
PubH 225	Introduction to Children's Health and the Environment	2	Spring Alternate Years	
PubH 227	Public Health Microbiology and Biodefense	2	Spring	
PubH 229	Information Sources in Environmental and Occupational Health	1	Fall	
PubH 245	Infectious Disease Epidemiology	2	Spring	
PubH 259	Epidemiologic Surveillance in Public Health	2	Spring	
PubH 284	Public Health Law	3	Spring	
PubH 328	Global Health Program Development and Implementation	2	Fall, Spring	
PubH 349	Humanitarian Operations	2	Fall	
PubH 290. xx	View the course schedule for courses offered by SPHHS, Past offerings have included: Homeland Security and Public Health Policy, Infectious Disease Policy, Biodefense and Bio-security, Surveillance of Bioterrorism Agents, Epidemiology of Influenza, Global Health and Security	Varies		
<b>Sample EMSE courses that may with advisor approval be substituted for the EMSE courses above</b>		<b>Credits</b>	<b>Semester Offered</b>	<b>Grade</b>
EMSE 234	Management of Risk and Vulnerability for Natural and Technological Hazards	3	Fall	
EMSE 332	Crisis Management, Disaster Recovery, and Organizational Community	3	Spring	
EMSE 334	Environmental Hazard Management	3	Spring	

School of Public Health and Health Services

Graduate Certificate Program – Public Health and Emergency Management  
2010-2011

Graduation Requirements  
Graduate Certificate Program

1. At least 20 graduate credits are required. At least half of these must be in SPHHS courses (indicated by PubH).
2. The program director/advisor must pre-approve all course selections and sequencing by developing a “program of study” with the student prior to initial registration. Graduate Certificate students must meet with their advisor each semester before registration, and all changes to the program of study must be approved.
3. Graduate Credit Requirement for students enrolled concurrently in a SPHHS Degree Program: a minimum of 14 new credits are required, 6 credits can be carried over into the certificate program if they the content is appropriate.
4. The program director/advisor may approve up to four graduate credits that have not been applied to a previous graduate degree as transfer credit into the graduate certificate program. Course(s) must be relevant to the graduate certificate; credit must have been earned from an accredited institution within the past three years with a grade of B or better.
5. Grade Point Requirement. A 3.0 (B average) overall grade point average or better is required.
6. Time Limit Requirement. The certificate must be completed within 2 years.

Graduate Certificate  
Public Health and Emergency Management  
Course Descriptions  
2010-2011

PubH	226	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	228	Global Environmental and Occupational Health	3	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. Prerequisite: PubH 204, Fall Alternate Years
PubH	204	Environmental and Occupational Health in a Sustainable World	2	Examines the connection between population health and exposures to chemical, physical, and biological agents in the environment. Through the use of problem-solving frameworks, students will become familiar with data sources, methodologies and policy approaches being used to address the public health impacts of environmental and occupational health hazards, including the consequences of climate change, natural resource degradation, and industrial chemicals. The course will integrate key concepts of environmental health with principles of sustainability to illustrate how public policies and practices on the local, national and global level affect population health. Fall, Spring, Summer 1
PubH	321	Global Health Frameworks	3	Provides a foundation of the various frameworks and techniques used to study global health. The frameworks examined will include epidemiology, anthropology, economics, human rights, and ethics among others. The perspectives studied will provide an introduction and understanding of how global health issues are framed, structured and presented. Fall, Spring

PubH	284	Public Health and Law	3	Examines how law can both promote and impede the public's health. Introduces students to the legal concepts that underlie the public health system and that inform public health policymaking in the United States. Topics to be covered include the role of law in public health care and policy (e.g., governmental powers vs. civil liberties, regulation of public health, tobacco regulation), managed care and public health, the role of public health officials in shaping law and policy, and public health law reform. Spring
EHS	275	Leadership and Change in Emergency Services Management	3	A capstone course focusing on the concept of leadership within the contexts of health professionals, health systems, and health policy. Spring
EHS	201	Response to High Impact Emergencies	3	Strategies for an effective response to large-scale and high-impact emergencies examined as the managerial foundation for development of a response policy. Fall
EMSE	232	Crisis and Emergency Management	3	Concepts and problems of crisis and emergency management. Defining crises, emergencies, and disasters. Developing crisis, contingency, and incident management plans. The National Response Plan, National Incident Management System, organizing for response, managing the response organization, managing in a turbulent environment, crisis decision making and communication. Fall.
EMSE	239	Medical and Public Health Emergency Management	3	Medical and public health management issues encountered in crises, emergencies, and disasters are examined and presented at the technical level of a non-medical emergency manager. The spectrum of medical, public health, psychological and behavioral problems are described, as well as incident management organization and processes that addresses these concerns and integrate medical and public health assets into the response. Spring
<b>Sample PubH Courses that may with advisor approval be substituted for PubH/EHS courses above or used as electives</b>				
PubH	223	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. Fall
PubH	225	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. Prerequisite: PubH 204. Spring
PubH	227	Public Health Microbiology and Biodefense	2	Provides students with a basic understanding of microbes and the environment with a particular emphasis on bioterrorism. Students will be able to: describe microbiological agents in the environment; describe the public health triad; outline public health measures addressing the threats of these environmental microbes; and, evaluate policy and regulations available to address these threats. Prerequisite: PubH 204. Spring
PubH	229	Information Sources in Environmental and Occupational Health	1	Skills for EOH research and information retrieval. Identify peer-reviewed, agency, and other sources of research on workplace, air, water, and soil hazards. Contrast research findings in the workplace and general environment. Examine contemporary research sources in industrial hygiene, risk communication, toxicology, epidemiology, health surveillance and monitoring, and regulation. Pre- or co-requisite: PubH 204. Fall
PubH	245	Infectious Disease Epidemiology	2	The role and conduct of laboratory and field investigations in the epidemiology of infectious diseases. Prerequisite: PubH 203. Spring
PubH	259	Epidemiologic Surveillance in Public Health	2	Focus on foundations of public health surveillance systems for communicable as well as chronic diseases. Outbreak investigation methods will be included, as well as surveillance data sources, data management, data analysis, ethical issues, surveillance system evaluation, and use of information for prevention. Surveillance systems for reportable diseases, nosocomial infections, bioterrorism events, cancer, environmental disease, vaccine-related adverse events, bovine spongiform encephalopathy, and military personnel will be discussed. Prerequisites: PubH 203. Spring
PubH	328	Global Health Program Development and Implementation	2	Basic concepts and principles of program development and evaluation including data collection methods, decision making, and problem-solving techniques. Application of program development techniques to specific interventions. Prerequisite: PubH 203, 321. Fall, Spring

PubH	349	Humanitarian Operations	2	Analyzes, through a variety of modules, including security institutions, vulnerable groups, humanitarian operations, natural disasters and global security, the impact of global health threats such as HIV/AIDS, SARS, avian flu, tuberculosis and malaria on security institutions, vulnerable populations, civil/military cooperation, and humanitarian operations. The course will also explore the potential value of these institutions in mitigating global health threats and responding to humanitarian emergencies. The course will examine a range of scientific, policy, and program interventions designed to address these issues. Prerequisite: PubH 321.
PubH		Other SPHHS Courses with Permission of Advisor	2 or 3	Courses relevant to career development and anticipated role in emergency management will be accepted with advisor approval.

**Sample EMSE Courses that may with advisor approval be substituted for EMSE Courses Above**

EMSE	234	Management of Risk and Vulnerability for Natural and Technological Hazards	3	Development of concepts required for risk-based planning and risk management. Objectives and methods for vulnerability assessment for natural disaster, technological hazards, and terrorist threats. Risk analysis, risk perception, risk communication, risk mitigation. Fall
EMSE	332	Disaster Recovery and Organizational Continuity	3	Disaster recovery planning & business continuity. Recovery of information & communication systems. The role of the private sector in mitigation & recovery. Public/private partnerships in community reconstruction and recovery. Spring
EMSE	334	Environmental Hazard Management	3	Geological, meteorological, radiological, chemical, and biological hazards facing the U.S. and international communities. Organizational responsibilities for hazard identification and management. Communication and perceptions of vulnerability and risk. Challenges to local governments and communities.
EMSE	225	Hazardous and Toxic Waste Management and Cleanup	3	Hazardous waste management and cleanup processes used in the U.S. and around the world. The roles of the relevant federal, state, and local government agencies; major hazardous and toxic waste laws and regulations. Planning, assessment, investigation, design, and construction phases of toxic and hazardous waste remediation projects. Spring, even years
EMSE	230	Homeland Security: The National Challenge	3	The evolution of homeland security as a major function of the federal government; analysis of the existing homeland security policy framework and current issues. Spring
EMSE	232	Crisis and Emergency Management	3	Concepts and problems of crisis and emergency management. Defining crises, emergencies, and disasters. Developing crisis, contingency, and incident management plans. The National Response Plan, National Incident Management System, organizing for response, managing the response organization, managing in a turbulent environment, crisis decision making and communication. Fall
EMSE	233	Information Technology in Crisis and Emergency Management	3	The role of information in crisis and response management; determining disaster and crisis information requirements; information technologies applied to crisis, disaster, and emergency management; causes and effects of information breakdowns during crises and disasters. Spring
EMSE	238	International Disaster Management	3	Guiding principles, key institutions, operational requirements, policy issues, and broad fundamentals associated with international disaster risk reduction and humanitarian response to natural and man-made disasters and complex emergencies. Fall
EMSE	239	Medical and Public Health Emergency Management	3	Medical and public health management issues encountered in crises, emergencies, and disasters are examined and presented at the technical level of a non-medical emergency manager. The spectrum of medical, public health, psychological and behavioral problems are described, as well as incident management organization and processes that addresses these concerns and integrate medical and public health assets into the response. Spring
EMSE	240	Management of Terrorism Preparedness and Response	3	Terrorism, terrorist methods, and human/infrastructure vulnerability. Current preparedness and response programs. Mitigation, preparedness, and response requirements to manage mass terrorism incidents within the context of all-hazard emergency management. Case studies. Fall
EMSE	333	Hazard Mitigation in Disaster Management	3	Hazard mitigation and its role in disaster management; analysis of past and current government and private-sector programs; examination of new approaches; structural versus nonstructural actions; mitigation of terrorist attacks. Fall