

Program Co-Directors

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Mission

The mission of the Epidemiology Program is to educate graduate students by developing the necessary methodological and quantitative skills to work successfully in the field. While nurturing students' capacity to think critically and creatively, we strive to deepen their commitment to improving the public's health and to engaging in and promoting public service—qualities we believe are essential for future epidemiologists and public health practitioners.

Goals

The goals of the Epidemiology Program are to ensure that graduates:

- ◆ Understand and adhere to high scientific standards for research;
- ◆ Understand and follow guidelines for ethical treatment of research participants;
- ◆ Can communicate research findings to a lay audience; and
- ◆ Respect cultural diversity throughout all of the above.

Course Requirements

All GW School of Public Health and Health Services (SPHHS) MPH students who select the MPH Epidemiology Program enroll in Core Courses (16 credits), Program-Specific Courses (21 credits), and Electives (4 credits). The total 45 credit degree program also includes a Practicum (2 credits) and a Culminating Experience (2 credits) where students apply their didactic education in a real world setting. The curriculum sheets that follow describe the requirements for the MPH in Epidemiology.

Program-Specific Competencies

The Epidemiology specialization prepares students for epidemiological research and evaluation in academic, governmental, private-sector, and community health care sites. The curriculum prepares students to design and conduct studies, manage health data, and make leadership decisions in public health and clinical epidemiology. The following competencies were developed in concert with professors of epidemiology courses (at GWU as well as other CEPH-accredited MPH programs), epidemiology textbooks, conversations with prospective employers likely to hire MPH-epidemiology graduates, and experience teaching epidemiology courses to MPH students. ASPH Education Committee competencies were also consulted.

Upon completion of the MPH in Epidemiology, students will demonstrate functional competence to:

- Apply epidemiological and biomedical concepts in identifying and describing the determinants and the distribution of disease in human populations. Relevant courses: PubH 6247, 6249, 6252, 6260

- Identify and assess patterns of emerging diseases to postulate hypotheses and to identify appropriate strategies in order to evaluate the impact of health problems. Relevant courses: PubH 6299*, 6242, 6244, 6245, 6246, 6248, 6250, 6259, 6247, 6249, 6252, 6260
- Enumerate and apply underlying principles and methods to design, plan, and conduct epidemiologic studies including observational and experimental designs, screening programs, public health surveillance, and other epidemiologic designs. Relevant courses: PubH 6299*, 6247, 6249, 6252, 6260
- Identify the appropriate data analysis methods, conduct data analysis using a computerized software program, and interpret the results from epidemiological studies. Relevant courses: PubH 6249, 6252, 6260
- Demonstrate proficiency in constructing and managing databases from epidemiological studies using statistical software, e.g. The SAS® System. Relevant courses: PubH 6299*, 6249, 6260
- Synthesize data and relevant literature to interpret findings in a causal framework, write manuscripts, and make oral presentations. Relevant courses: PubH 6299*, 6247, 6249, 6252, 6260
- Work in a multidisciplinary research team and recognize and appropriately respond to ethical and legal issues that arise in research. Relevant courses: PubH 6299*, 6247
- Define and critically assess issues in at least two of the following specialty areas in epidemiology:
 - Clinical epidemiology such as decision analysis, cost-effectiveness to clinical and public health problems.
 - Major topics in infectious disease epidemiology, including emerging infectious diseases, drug resistant pathogens, and perinatal and neonatal infections.
 - Methods and issues in injury epidemiology related to intentional and unintentional injury with focus on injuries occurring in transportation, occupational, home, and recreational environments.
 - Methods and issues of cancer epidemiology including descriptive and analytical studies with emphasis on genetic and molecular epidemiology.
 - Methods and issues of chronic disease specifically those affecting older populations.
 - Methods and issues of surveillance systems in public health.

Relevant courses: PubH 6299*, 6242, 6244, 6245, 6246, 6248, 6250, 6259

*Selected epidemiology-biostatistics topics/electives including 6258 and 6262

Sample Capstone Project Topics

Cancer:

- Inflammatory Breast Cancer
- Disparities in Cancer Diagnosis and Treatment
- Associations between Behavioral Factors and Cancer

HIV/AIDS:

- Use of Technology in the Care of HIV-Infected Individuals
- Care of Pediatric and Adolescent HIV-Infected Patients
- Adherence to Antiretroviral Medications
- Development of Resistance to Antiretroviral Medications

Infectious Disease:

- Listeria at Meat Packaging Plants
- Food Contamination and Surveillance


Other:

- Racial/Ethnic Disparities in Low Birth Weight
- Use of Standardized Case Definitions in Adverse Events following Immunization Surveillance

Additional Certificate Information is available via the SPHHS website:

<http://sphhs.gwumc.edu/academics/graduateprograms/graduatecertificates/graduatecertificateinepidemiology>

Please see the curriculum sheets that follow.

		School of Public Health and Health Services Master of Public Health Epidemiology Program Program-at-a-Glance		
Required Core Courses				
Required Core Courses		Credits	Semester Offered	Grade
PubH 6001	Biological Concepts for Public Health	2	Fall, Spring, Summer I	
PubH 6002	Biostatistical Applications for Public Health	3	Fall, Spring, Summer 10 wk	
PubH 6003	Principles and Practice of Epidemiology	3	Fall, Spring, Summer 10 wk	
PubH 6004	Environmental and Occupational Health in a Sustainable World	2	Fall, Spring, Summer I	
PubH 6005	Policy Approaches to Public Health	2	Fall, Spring, Summer 10 wk	
PubH 6007	Social and Behavioral Approaches to Public Health	2	Fall, Spring, Summer I	
PubH 6008	Management Approaches to Public Health	2	Fall, Spring, Summer 10-wk	
Total	Core Credits	16		
Required Program-Specific Courses				
Required Program Specific Courses		Credits	Semester Offered	Grade
PubH 6247	Design of Health Studies	3	Fall, Spring	
PubH 6249	Use of Statistical Packages: Data Management and Data Analysis	3	Fall, Spring	
PubH 6252	Advanced Epidemiology Methods	3	Fall, Spring	
PubH 6260	Advanced Data Analysis for Public Health	3	Fall, Spring	
PubH 6261	Epidemiology and Biostatistics Skills Building Seminar	1	Fall, Spring	
Sub-total	Methods Courses	13		
Epidemiology Content Foundation Courses Select at least 4 credits from the list below.				
PubH 6242	Clinical Epidemiology and Decision Analysis	2	Spring	
PubH 6243	Topics in Epidemiology and Decision Analysis	1	Spring	
PubH 6244	Cancer Epidemiology	2	Spring	
PubH 6245	Infectious Disease Epidemiology	2	Spring	
PubH 6246	Injury Epidemiology and Prevention	2	TBA	
PubH 6248	Epidemiology Methods in Older Populations	2	TBA	
PubH 6250	Epidemiology of HIV/AIDS	2	Fall	
PubH 6259	Epidemiology Surveillance in Public Health	2	Spring	
Sub-total	Epidemiology Content Foundation Credits	4		

Curriculum continued on next page . . .

Select 4 credits from Department of Epidemiology-Biostatistics Electives			
Select at least 4 credits from the list below. May also use credits from the Content Foundation Courses above.			
PubH 6253	Issues in HIV Care and Treatment	1	Fall
PubH 6255	Organizational Responses to the HIV/AIDS Epidemic	2	Spring
PubH 6258	Advanced Topics in Biostatistical Consulting (Instructor's Approval Required)	1	Spring
PubH 6262	Introduction to Geographic Information Systems	1	Summer, Fall, Spring
PubH 6263	Advanced GIS	1	Fall, Spring
PubH 6267	Time Series Applications in Public Health	1	Spring
PubH 6268	Advanced SAS	1	Summer
PubH 6269	Reproductive and Perinatal Epidemiology	1	Summer
PubH 6271	Disaster Epidemiology: Methods and Applications	1	Summer
PubH 6270	HIV/AIDS Surveillance	1	Summer
PubH 6272	Epidemiology of Infectious Agents Associated with Human Cancer	1	Summer
PubH 6273	Ethnographic Methods as Applied in Public Health	1	Fall
PubH 6274	Emerging Infectious Diseases for Public Health Professionals	2	Fall
PubH 6484	Prevention and Control of Vector Borne Disease	2	Spring
PubH 6485	Control of Water and Sanitation Related Diseases	1	Summer
PubH 6299	Genetic and Molecular Epidemiology	1	Summer
PubH 6299	Behavioral Epidemiology	1	TBA
PubH 6299	Analysis of Complex Survey Data Using SUDAAN	1	TBA
PubH 6299	Pesticide Exposures and Cancer	1	Summer
PubH 6299	Nutritional Epidemiology	1	Summer
PubH 6299	Others to be announced	1-2	TBA
Sub-total	Epi-Bio Electives	4	
Electives	Any SPHHS graduate course(s). May also use credits from the Content Foundation Courses or Electives categories above	4	Summer, Fall, Spring
PubH 6014.13	Practicum IMPORTANT: PubH 6261 is a co-requisite for the Practicum.	2	See advisor
PubH 6015.13	Culminating Experience	2	See advisor
Course Distribution		Credits	
Public Health Core Courses		16	
Program-Specific Courses		21	
Electives		4	
Practicum		2	
Culminating Experience		2	
Total	Degree Credits	45	

* Proposed Courses. Pending assignment of permanent course number, may be taken as PubH 6299 topics courses.

School of Public Health and Health Services
Master of Public Health and Graduate Certificate Program Option
Epidemiology

Note: All curriculum revisions will be updated immediately on the website <http://www.gwumc.edu>

**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. **Grade Point Requirement.** A 3.0 (B average) overall grade point average is required.
4. **Time Limit Requirement.** The degree must be completed within four years.
5. **Transfer Credit Policy.** Up to 12 graduate credits that have not been applied to a previous graduate degree may be transferred to the MPH. Up to 18 credits may be transferred to the MPH from the SPHHS Graduate Certificate. Credits must have been earned from an accredited institution in the last 3 years with a grade point of 3.0 or better.

**Graduation Requirements
 Graduate Certificate**

1. **Graduate Credit Requirement.** 18 graduate credits are required.
2. **Graduate Credit Requirement for students enrolled concurrently in a SPHHS Degree Program.** 12 credits are required. (For students in the MPH program as well as the certificate, 12 certificate credits are in addition to the required 45 MPH credits; a total of 57 credits will be taken to award both the MPH and the certificate.)
3. The Program Director/Advisor must pre-approve all course selections and course sequencing by developing a “program of study” prior to the student’s initial registration. Graduate Certificate students meet with their advisor each semester before registration. All changes in this program of study must be pre-approved by the Program Director/Advisor.
4. **Course Requirements.** Since most graduate certificate students are currently enrolled in an MPH program or have previously earned a graduate degree, most course credits will be selected from the program-specific course list. Under no circumstances may a certificate student enroll in fewer than 9 credits of program-specific courses.
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 two years.
7. **Transfer Credit Policy.** The Program Director/Advisor may approve up to 4 graduate credits that have not been applied to a previous graduate degree to be transferred to the graduate certificate. (Exceptions: SPHHS master’s students and alumni may transfer up to 6 credits from master’s degree to the Graduate Certificate.) The course(s) must be relevant to the graduate certificate. Credits must have been earned from an accredited institution in the last 3 years with a grade point of 3.0 or better.

**Core Courses
 16 Credits**

PubH (201)	6001	Biological Concepts for Public Health	2	Provides an overview of current knowledge about biological mechanisms of major diseases causing death and disability in the US and globally; understanding and interpreting the reciprocal relationships of genetic, environmental, and behavioral determinants of health and disease in an ecologic context; analyzing, discussing, and communicating biologic principles of disease from a public health perspective. Fall, Spring, Summer 1
PubH	6002	Biostatistical Applications for	3	Application of biostatistical principles to critical analysis of retrospective studies, prospective studies, and

(202)		Public Health		controlled clinical trials, as well as studies in the health services literature. Selection, basic calculations, and interpretation of statistical methods for detection of significant associations and differences. Fall, Spring, Summer 10 weeks
PubH (203)	6003	Principles and Practice of Epidemiology	3	General principles, methods, and applications of epidemiology. Outbreak investigations, measures of disease frequency, standardization of disease rates, study design, measures of association, hypothesis testing, bias, effect modification, causal inference, disease screening, and surveillance. Case studies apply these concepts to a variety of infectious, acute, and chronic health conditions affecting the population. Fall, Spring, Summer 10 weeks
PubH (204)	6004	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 (205)	6005	Policy Approaches to Public Health	2	Introductory multidisciplinary course focusing on the interplay of all aspects of global public health on health policy problems. Students will learn how health policy is made, how health care and public health services are delivered, and how to define and analyze key health policy problems drawing on the perspectives and skills of the public health disciplines. Fall, Spring, Summer 10 weeks
PubH (207)	6007	Social and Behavioral Approaches to Public Health	2	This course will emphasize social and behavioral science theories, models, and concepts that can be applied to public health problems and interventions. This course will describe the role of social and community factors, including race/ethnicity and culture, in both the onset and solution of public health problems and describe the inter-relationship between the social and behavioral science. Fall, Spring, and Summer 1
PubH (208)	6008	Management Approaches to Public Health	2	An advanced multidisciplinary course examining global public health and health delivery issues through the use of a case study approach. Prerequisites: PubH 6001, 6002, 6003, 6004, 6005, 6007. Fall, Spring, Summer 10 Weeks
Program Specific Courses, Selectives, Electives and Practicum and Culminating Experience 29 Credits				
PubH (242)	6242	Clinical Epidemiology and Decision Analysis	2	Quantitative and qualitative approaches to decision making, including risk- benefit analysis, decision analysis, and cost-effective analysis. Applications to technology assessment; development of clinical guidelines. PubH 6002.6003, Spring Note: MPH Health Policy and Doctoral Students concurrently take PubH 6299 topics course by the same name for 1 credit.
PubH	6243	Topics in Epidemiology and Decision Analysis	1	This class takes an evidence-based problem solving approach for Masters level students interested in the health policy focus of clinical epidemiology utilizing methods taught in PubH 6242. Prerequ: PubH 6003. Corequis: PubH 6242. Spring
PubH (244)	6244	Cancer Epidemiology	2	Epidemiology of specific cancers, with an emphasis on molecular and genetic epidemiology. Current research in the field. Prerequisite: PubH 6003. Spring
PubH	6245	Infectious Disease	2	The role and conduct of laboratory and field investigations in the epidemiology of infectious diseases.

(245)		Epidemiology		Prerequisite: PubH 6003. Spring
PubH (246)	6246	Injury Epidemiology and Prevention	2	Epidemiologic knowledge and prevention strategies for intentional and unintentional injuries, including those occurring in transportation, occupational, home, and recreational environments. Research methods, sources of data, and application to injury prevention. Prerequisite, PubH 6003, Fall
PubH (247)	6247	Design of Health Studies	3	Epidemiologic concepts and methods applied to specific research questions especially new types of public health problems. Recognition and development of the most appropriate study design for a specific health issue. Ecologic, cross-sectional, case-control, cohort studies and clinical trials. Sampling, measurement, questionnaire design, causality and causal criteria. Development of a research proposal. Prerequisite: PubH 6003. Fall, Spring
PubH (248)	6248	Epidemiology Methods in Older Populations	2	Methodological challenges in studying older populations. Epidemiologic endpoints in aging populations. Basic concepts and theories explored in aging research. Prerequisite, PubH 6003, Fall
PubH (249)	6249	Use of Statistical Packages: Data Management and Data Analysis	3	This course familiarizes the student with one of the most widely used database management systems and statistical analysis software packages, the SAS System, operating in a Windows environment. Throughout the course, several database management system techniques and data analytical strategies for the appropriate analysis of datasets obtained from a variety of studies will be presented. Statistical techniques covered include linear regression, analysis of variance, logistic regression, and survival analysis. Prerequisite: PubH 6002. Fall, Spring
PubH (250)	6250	Epidemiology of HIV/AIDS	2	Methodological issues central to HIV/AIDS research. Biases peculiar to HIV/AIDS epidemiologic studies (both observational and experimental designs). The natural history of HIV, diagnosis, surveillance, vulnerable subpopulations, behavioral facets, and evaluation of epidemiologic studies with an emphasis on methodological considerations. Prerequisite: PubH 6003, Recommended 6002. Fall
PubH (252)	6252	Advanced Epidemiology Methods	3	Advanced quantitative epidemiologic methods, with a focus on basic data analytic techniques, identifying and evaluating bias and adjusting for confounding. Dose-response, trend analysis, and multiple linear and logistic regression models. Prerequ: PubH 6002, 6003, 6247; Pre or co-requisite: PubH 6249. Fall, Spring
PubH (253)	6253	Issues in HIV Care and Treatment	1	This course will provide an overview and in depth consideration of some of the major issues in treatment of HIV disease, including the assessment of efficacy and effectiveness, drug resistance, monitoring of drug toxicity, special populations, the interrelationship between treatment and prevention, and quality of care. The course has been designed with an interdisciplinary audience in mind. In discussions and assignments, students will be able to emphasize their own area of interest and/or expertise (e.g. epi, policy, etc). Fall
PubH (255)	6255	Organizational Responses to HIV/AIDS Epidemic	2	Focus on current epidemiologic challenges in HIV/AIDS; guest speakers describing their public health organizations' responses to these issues; and interactive dialogues to explore the strengths and limitations of various organizational approaches to the epidemic. Prerequisite: PubH 6250 (Epidemiology of HIV/AIDS), PubH 6559 (HIV Prevention: An Interdisciplinary Approach), or permission of Instructor. Spring
PubH (258)	6258	Advanced Topics in Biostatistical Consulting (Instructor's Approval Requ)	1	Principles and practice of biostatistical consulting in public health and medical research environments. Spring
PubH (259)	6259	Epidemiology Surveillance in Public Health	2	This course focuses 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. Prerequisite: PubH 6003. Spring
PubH (260)	6260	Advanced Data Analysis for Public Health	3	An intensive course in advanced data analysis using the SAS System to expand on the analytic techniques gained in PubH 6002 and PubH 6249 and to provide students with the applied statistical skills required to analyze various types of public health datasets. Prerequisites: PubH 6002, 6249. Fall, Spring
PubH (261)	6261	Epidemiology & Biostatistics Skills Building Seminar	1	Assists students in developing the skills needed to complete the practicum and culminating experience. Provides students with practical applied public health training. Prerequisites: PubH 6002, 6003, 6005. Co-requisites: PubH 6014 Practicum, PubH 6247, 6249. Fall, Spring
PubH (262)	6262	Introduction to Geographical Information Systems	1	Geographic information systems (GIS) for mapping and display of health data. The course makes use of ArcGIS 8.3. The use of spatial statistics for the detection of clusters and patterns in the spread of diseases. Working with geodatabases, shape files, layers, query information from attribute tables, geocode addresses and customizing GIS applications. Summer, Fall, Spring
PubH (263)	6263	Advanced Geographic Information Systems	1	Structured to provide mid to advanced level training in GIS for display and analysis of health data. Use software ArcGIS 9.3 and additional extensions such as Spatial Analyst and Geostatistical Analyst. Also uses GeoDa software. Emphasizes benefits of using GIS to do more than simply manage and map data. GIS supports a range of spatial analysis functions that enable researchers to extract additional meaning from manipulating geographic data. Learn to work with raster datasets and geodatabases to build spatial models for analyzing health data and evaluating spatial patterns of health events based on notion of distance. Prerequisite: PubH 6262. Fall, Spring
PubH (267)	6267	Time Series Applications in Public Health	1	Introduce basic concepts for the identification and modeling of time series in the time domain approach. Learn a new set of terminology standards and a different way to analyze these type of data and to forecast future values of a time series and its accuracy. Software used is SAS/ETS and 3 procedures: ARIMA, AUTOREG, FORECAST. New mathematical notation will be used. Prerequisite: PubH 6249. Spring
PubH (268)	6268	Advanced SAS	1	Intensive in advanced programming using SAS. Expand technical skills to provide advanced SAS tools for data management and graphics. Topics to include Interactive Matrix Language (IML), SAS Macro facility language, and drill-down graphs using SAS/GRAPH. Prerequisites: PubH 6002, 6249 or Instructor's permission. Summer
PubH (269)	6269	Reproductive and Perinatal Epidemiology	1	Current research, controversial issues and methodological problems in epidemiology of reproductive and perinatal health. Present reproductive health issues such as conception and infertility; perinatal issues such as complications of pregnancy, infections in pregnancy, adverse pregnancy outcomes, and birth defects. Prerequisite: PubH 6003. Summer
PubH (270)	6270	HIV/AIDS Surveillance	1	Overview of surveillance methods used domestically and internationally to monitor HIV/AIDS epidemic. Surveillance systems including sentinel, population based, behavioral, and incidence surveillance will be presented and discussed. Strengths and weaknesses of these various systems will be discussed in addition to how data from these systems impact and inform HIV/AIDS related policies and programs. Prerequisite: PubH 6003. Summer
PubH (271)	6271	Disaster Epidemiology: Methods and Applications	1	Introduction to disaster epidemiology that elucidates the important role epidemiologists play in assessing the health and psychological effects of natural and man-made disasters and in identifying factors that contribute to these effects. Focus will be on applications of epidemiologic methods to the study of public health consequences of disasters, case studies from actual disasters used to illustrate various roles of

				epidemiologist in responding to these events and lessons learned. Highlight key skills that epidemiologists need to be part of a response and recovery. Identify methodological issues for future work. Prerequisites: PubH 6002, 6003. Summer
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PubH (272)	6272	Epidemiology of Infectious Agents Associated with Human Cancer	1	Describes the role of infectious agents in the etiology of human cancer. Emphasis on differences between specific oncogenic viruses. Other oncogenic agents, bacterial and parasitic, will also be discussed. Discuss laboratory approaches to the documentation of their pathogenicity, how behavior affects mode of transmission, and which types of data provide strongest support for documenting oncogenic potential for humans. Prerequisite: PubH 6003. Summer
PubH (273)	6273	Ethnographic Methods as Applied to Public Health	1	Use ethnographic field methods in conjunction with epidemiological research. Introduction to specific methods used to examine health phenomena and determinants of disease. Learn specific applied skills that can be modified with socio-cultural modifications to evaluate urban sites and other settings. Basic skills in application of ethnographic methods, including recursive observations, participant observations, and variety of approaches to interviewing such as in-depth, structured and non-structured as well as conversational interviewing. Discuss use of multiple approaches in conjunction with ethnography, including focus groups, archival, document, statistical and secondary data analysis, and survey research methods. Course emphasizes use of ethnographic research methods in community-based health settings and evaluates issues in cultural competency and how to garner stakeholder support to conduct epidemiologic studies. Prerequisite: PubH 6003. Fall
PubH (274)	6274	Emerging Infectious Diseases for Public Health Professionals	2	Focus on epidemiology of emerging infectious diseases of public health importance, including factors leading to their development, management of emerging infectious diseases from a public health and laboratory standpoint, including biosafety, and strategies for emergency preparedness from a national and international perspective. Course emphasizes the context of emerging infectious diseases and strategic approaches to their containment. Prerequisites: PubH 6003 or Micr 6292 or Instructor permission. Fall
PubH (350)	6484	Prevention and Control of Vector Borne Diseases	2	Vector borne diseases involve a vector (carrier) that transmits a pathogen to a human host. This course introduces students to insects and other vectors that are responsible for transmission of diseases such as West Nile Virus, malaria, dengue fever, and elephantiasis. Students will learn how to recognize various disease vectors, how they transmit diseases, the diseases transmitted and methods for effective management and control. Prerequisite: PubH 6400. Fall
PubH (353)	6485	Prevention and Control of Water and Sanitation Diseases	1	This course will focus on problems associated with providing adequate water and sanitation in developing countries and diseases like schistosomiasis, cholera, dysentery & typhoid. Innovative tools and solutions for improving water supply and sanitation in developing countries will also be discussed. Summer
PubH (214)	6014.13	Practicum	1-3	This course provides the opportunity for MPH students to apply the knowledge and skills acquired through their programs of study. A planned, supervised and evaluated practice experience that is relevant to the student's program is an essential component of a public health professional degree program. These opportunities can take place in a variety of agencies or organizations. Each program customizes Practicum requirements to meet students' needs. (Credit/No Credit) Corequisite: PubH 6261. Summer, Fall, Spring.

PubH (215)	6015. 13	Culminating Experience	2-3	A culminating experience is one that requires a student to synthesize and integrate knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice. It is through this course that faculty evaluates the extent to which the student has mastered the body of knowledge and can demonstrate proficiency in the required competencies. Each program customizes Culminating Experience requirements to meet students' needs. Summer, Fall, Spring
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NOTE: Always see your advisor for course scheduling and sequencing strategies, but remember that proper course selection, fulfilling requirements, and on-time graduation are your responsibilities.

The Master of Public Health (MPH) curriculum consists of four types of courses:

- Required Core Courses (PubH 6001, 6002, 6003, 6004, 6005, 6007, and PubH 6008)
- Required Program-Specific Courses, including Epidemiology Content Foundation Courses and Epidemiology electives (Selectives)
- Electives
- Required Practicum and Culminating Experience

The MPH core courses are designed to provide students with a broad public health context as well as a critical foundation for subsequent coursework. Early completion of these core courses ensures that students will have the base of knowledge to successfully complete the program specific courses and to get as much as possible out of them. As such, entering students are expected to enroll in MPH core courses in accordance with the following guidelines:

- We expect MPH students to complete the MPH core courses in their first year of graduate study (fall/spring/summer). This does not include PubH 6008 (Management Approaches to Public Health), which should be taken in the second half of the program of study, and which requires every other core course as a pre-requisite.
- Further, we expect MPH students to complete the following MPH courses in the first two semesters of study:
 - PubH 6001 – Biological Concepts for Public Health
 - PubH 6002 – Biostatistics or PubH 6003 – Epidemiology
 - PubH 6005 – Policy Approaches to Public Health

These guidelines reinforce the principle that core courses should be taken early.

In order to help assure that all students complete core courses in the first year of study, SPHHS will offer all MPH Epidemiology core courses during all three semesters (fall, spring, and summer). This will allow students who wish to complete their MPH degree within two years to do so, and will allow every student to make steady progress toward completing the MPH degree.

We recognize that there may be exceptional circumstances that make it difficult for a student to complete core courses in the first year as outlined above. Any such student should discuss this situation with his or her academic advisor. If the advisor and student agree that an exception is needed, the student should complete a Graduate Petition Form explaining the circumstances, obtain the academic advisor's signature, and submit the Petition to the SPHHS Office of Student Records, 202 Ross Hall. The Associate Dean for Student Affairs must approve such a petition before a student is permitted to defer any core courses to the second year.

Table 1 (full time students) and Table 2 (part time students) present sample course schedules that MPH Epidemiology students are required to take during their tenure at the SPHHS. It is noteworthy that fully 45 credits are required, including core courses (16 credits), program specific courses, including Epidemiology Content Foundation and Epidemiology Electives (21 credits), electives (4 credits), and the practicum (2 credits) and culminating experience (2 credits).

GWU School of Public Health and Health Services - MPH in Epidemiology (45 cr)

Sample Schedule for 2-Year Completion (Fall start)

Semester	Cr	Course #	Course Name	Time
Fall 1st year 10 credits	2	PubH 6001	Biological Concepts for Public Health	Thurs 4:10-6:00 pm
	3	PubH 6003	Principles and Practice of Epidemiology	Tues 6:10 – 9:00 pm or Fri 3:10 – 6:00 pm
	3	PubH 6002	Biostatistical Applications for Public Health	Weds 6:10 – 9:00 pm or Mon 3:10-6:00 pm
	2	PubH 6004	Environmental & Occupational Health in a Sustainable World	Tues 4:10 – 6:00 pm
Spring 1 st year 10 credits	2	PubH 6005	Policy Approaches to Public Health	Thurs 6:10 – 8:00 pm
	3	PubH 6247	Design of Health Studies	Wed 6:10-9:00 pm
	2	PubH 6xxx	Epidemiology Content Course	
	3	PubH 6xxx	Epi-Bio or SPHHS electives	
Summer 1 st year 4 credits	2	PubH 6007	Social & Behavioral Science Methods	Summer I – Mon/Weds 3:45 – 6:00 pm
	2	PubH 6xxx	Epi-Bio or SPHHS electives	
Fall 2 nd year 10 credits	2	PubH 6008	Management Approaches in Public Health	Thurs 6:10-9:00 pm
	3	PubH 6249	Use of Statistical Packages	Tues 6:10-9:00 pm + 1 hour computer lab
	2	PubH 6xxx	Epidemiology Content Course	
	1	PubH 6261	Epidemiology & Biostatistics Skills Bldg Seminar	Tues 4:10-6:00 pm
	2	PubH 6014	Practicum	
Spring 2 nd year 9 credits	3	PubH 6260	Advanced Data Analysis for Public Health	Tues 6:10-9:00 pm
	3	PubH 6252	Advanced Epidemiologic Methods	Thurs 3:10-6:00 pm
	2	PubH 6015	Culminating Experience	
	1	PubH 6xxx	Epi-Bio or SPHHS elective	
Summer 2 nd year 2 credits	2	PubH 6xxx	Epi-Bio or SPHHS electives	

Epidemiology Content Courses

PubH 6242	Clinical Epidemiology	Spring Every Year	Tues 4:10-6:00 pm
PubH 6244	Cancer Epidemiology	Spring Every Year	Wed 4:10-6:00 pm
PubH 6245	Infectious Disease Epidemiology	Spring Every Year	Mon 4:00-6:00 pm
PubH 6246	Injury Epidemiology	Fall Every Year	Tues 4:10-6:00 pm
PubH 6248	Epidemiologic Methods in Older Populations	Fall Every Year	Mon 6:10-8:00 pm
PubH 6250	Epidemiology of HIV/AIDS	Fall Every Year	Thurs 4:10-6:00 pm
PubH 6259	Epidemiologic Surveillance	Spring Every Year	Wed 6:10-8:00 pm

4 credits of Epi-Bio Electives –Any 6xxx courses offered by the Epi-Bio Department or any of the above Epidemiology Content Courses

4 credits of SPHHS Electives-Any courses offered in the SPHHS

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MPH in Epidemiology (45 credit)

Sample Schedule for 3-Year Completion (Fall start)

Semester	Cr	Course #	Course Name	Time
Fall 1 st year 6 credits	3	PubH 6003	Principles and Practice of Epidemiology	Tues 6:10 – 9:00 pm or Fri 3:10 – 6:00 pm
	3	PubH 6002	Biostatistical Applications for Public Health	Weds 6:10 – 9:00 pm or Mon 3:10-6:00 pm
Spring 1 st year 7 credits	2	PubH 6004	Environmental and Occupational Health in a Sustainable World	Tues 6:10 – 8:00 pm
	2	PubH 6001	Biological Concepts for Public Health	Thurs 4:10 – 6:00 pm
	2	PubH 6005	Policy Approaches to Public Health	Thurs 6:10-8:00 pm
	1	Elective	Elective	
Summer 1 st year 3 credits	2	PubH 6007	Social & Behavioral Science Methods	Summer I – Mon/Weds 3:45 – 6:00 pm
	1	PubH 6xxx	Epi-Bio or SPHHS Elective	
Fall 2 nd year 7 credits	3	PubH 6249	Use of Statistical Packages	Tues 6:10-9:00 pm + 1 hour computer lab Thurs 6:10-9:00 pm
	3	PubH 6247	Design of Health Studies	
	1	PubH 6xxx	Epi-Bio or SPHHS Electives	
Spring 2 nd year 7 credits	2	PubH 6xxx	Epidemiology Content Course	Thurs 3:00-5:50 pm
	3	PubH 6252	Advanced Epidemiological Methods	
	2	PubH 6xxx	Epi-Bio or SPHHS Electives	
Summer 2 nd year 3 credits	2	PubH 6008	Management Approaches to Public Health	Tues/Thurs 3:45-6:00 pm
Fall 3 rd year 7 credits	1	PubH 6261	Epidemiology & Biostatistics Skills Blding Seminar	Tues 4:10-6:00 pm
	2	PubH 6014	Practicum	
	3	PubH 6260	Advanced Data Analysis	Mon 4:10-7:00 pm
	1	PubH 6xxx	Epi-Bio or SPHHS Electives	
Spring 3 rd year 6 credits	2	PubH 6015	Culminating Experience	
	2	PubH 6xxx	Epidemiology Content Course	
	2	PubH 6xxx	Epi-Bio or SPHHS Electives	

Epidemiology Content Courses

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