

**Milken Institute School
of Public Health**

THE GEORGE WASHINGTON UNIVERSITY

**Department of Epidemiology
Master of Public Health
EPIDEMIOLOGY
2020-2021**

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

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Mission/Goals

The mission of the MPH 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.

MPH Foundational Competencies

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| 1. Apply epidemiological methods to the breadth of settings and situations in public health practice. | 12. Discuss multiple dimensions of the policy making process, including the roles of ethics and evidence. |
| 2. Select quantitative and qualitative data collection methods appropriate for a given public health context. | 13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes. |
| 3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate. | 14. Advocate for political, social or economic policies and programs that will improve health in diverse populations. |
| 4. Interpret results of data analysis for public health research, policy or practice. | 15. Evaluate policies for their impact on public health and health equity. |
| 5. Compare the organization, structure and function of health care, public health and regulatory systems across | 16. Apply principles of leadership, governance and management, which include creating a vision, |

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| national and international settings. | empowering others, fostering collaboration and guiding decision making. |
| 6. 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. | 17. Apply negotiation and mediation skills to address organizational or community challenges. |
| 7. Assess population needs, assets, and capacities that affect community's health. | 18. Select communication strategies for different audiences and sectors. |
| 8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs. | 19. Communicate audience-appropriate public health content, both in writing and through oral presentation. |
| 9. Design a population-based policy, program, project or intervention. | 20. Describe the importance of cultural competence in communicating public health content. |
| 10. Explain basic principles and tools of budget and resource management. | 21. Perform effectively on inter-professional teams. |
| 11. Select methods to evaluate public health programs. | 22. Apply systems thinking tools to a public health issue. |

Program-Specific Competencies

Upon Completion of the MPH Program in *Epidemiology* students should possess the following program competencies:

- Apply epidemiological and biomedical concepts in identifying and describing the determinants and the distribution of disease in human populations. Relevant courses: PUBH 6247, 6252, 6015
- 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 6015, 6247, 6252
- Enumerate and apply underlying principles and methods to conduct epidemiologic studies including observational and experimental designs, screening programs, public health surveillance, and other epidemiologic designs. Relevant courses: PUBH 6247, 6252, 6015
- Plan and design epidemiologic studies including observational and experimental designs. Relevant courses: PUBH 6247, 6252, 6015.
- Evaluate epidemiologic studies and identify limitations and sources of bias. Relevant courses: PUBH 6247, 6252, 6015
- Identify the appropriate data analysis methods, conduct data analysis using computerized software program, and interpret the results from epidemiological studies. Relevant courses: PUBH 6853, 6252, 6260, 6015
- Demonstrate proficiency in constructing and managing databases from epidemiological studies using statistical software, e.g. The SAS[®] System. Relevant courses: PUBH 6853, 6260, 6015
- Synthesize data and relevant literature to interpret findings in a causal framework, write manuscripts, and make oral presentations. Relevant courses: PUBH 6247, 6853, 6252, 6260, 6015
- Work in a multidisciplinary research team and recognize and appropriately respond to ethical and legal issues that arise in research. Relevant courses: PUBH 6247, 6853, 6252, 6260, 6015
- 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
 - Methods and issues of cancer epidemiology
 - Methods and issues of aging or chronic disease
 - Methods and issues of surveillance systems in public health.
- Relevant courses: PUBH 6247, 6252, 6015, and selection of 6237, 6241, 6242, 6244, 6245, 6248, 6250, 6259

Begin Planning Your Practicum During Year 1

| Required Core Courses (19 credits) | | Credits | Semester Offered |
|---|--|----------------|-------------------------------|
| PUBH 6002 | Biostatistical Applications for Public Health | 3 | Fall, Spring, Summer 10 weeks |
| PUBH 6003 | Principles & Practice of Epidemiology | 3 | Fall, Spring, Summer 10 weeks |
| PUBH 6007 | Social & Behavioral Approaches to Public Health | 2 | Fall, Spring, Summer I |
| PUBH 6009 | Fundamentals of Program Evaluation | 2 | Fall, Spring, Summer I |
| PUBH 6011 | Environmental and Biological Fundamentals of Public Health | 3 | Fall, Spring, Summer 10 weeks |
| PUBH 6012 | Fundamentals of Health Policy: Public Health and Healthcare | 2 | Fall, Spring, Summer I |
| PUBH 6021 | Essentials of Public Health Practice & Leadership 1: Leading Self and Teams in Public Health | 1 | Fall, Spring, Summer I |
| PUBH 6022* | Essentials of Public Health Practice & Leadership 2: Managing Organizations & Influencing Systems in Public Health and Practicum | 1 | Fall, Spring, Summer I |
| PUBH 6023 | Interprofessional Education Experience | 0 | Fall, Spring, Summer |
| PUBH 6015 | Culminating Experience | 2 | See Advisor |
| Required Departmental Courses (12 credits) | | | |
| PUBH 6247 | Design of Health Studies | 3 | Fall, Spring |
| PUBH 6853 | 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 |
| Required Program-Specific Courses (at least 4 credits selected from list below of Epidemiology Content Foundation Courses) | | | |
| Note: Other courses not listed here are possible but require advanced advisor approval/petition. | | | |
| PUBH 6237 | Chronic Disease Epidemiology | 2 | Fall |
| PUBH 6241 | Nutritional Epidemiology | 2 | Fall |
| PUBH 6242 | Clinical Epi and Public Health: Reading the Research | 2 | Spring |
| PUBH 6244 | Cancer Epidemiology | 2 | Spring |
| PUBH 6245 | Infectious Disease Epidemiology | 2 | Spring |
| PUBH 6248 | Epidemiology of Aging | 2 | Fall |
| PUBH 6250 | Epidemiology of HIV/AIDS | 2 | Fall |
| PUBH 6259 | Epidemiology of Surveillance in Public Health | 2 | Spring |
| Program-Specific Electives (4 credits)- <i>Select from List below:</i> | | | |
| *Note: There are additional elective courses not listed here that might be appropriate. Enrollment in one of these possible alternative courses requires advanced advisor approval/petition. | | | |
| PUBH 62xx | Any Epi course | 1-3 | Fall, Spring, Summer |
| PUBH 68xx | Any DBB course | 1-3 | Fall, Spring, |

| | | | |
|---|---|----------------|-------------|
| | | | Summer |
| PUBH 6121 | Environmental and Occupational Epidemiology | 3 | Fall/Spring |
| PUBH 6127 | Introduction to Environmental Health Microbiology | 2 | Fall |
| PUBH 6484 | Prevention and Control of Vector Borne Disease | 2 | Spring |
| PUBH 6455 | Global Vaccinology | 3 | Fall |
| PUBH 6486 | Global Health Programs and Approaches to the Control of Infectious Diseases | 2 | Fall |
| PUBH 6492 | Global Health Programs and Approaches to the Control of Chronic Diseases | 2 | Spring |
| EXNS 6208 | Physical Activity: Physiology and Epidemiology | 2 | Fall/Spring |
| Other Electives- any SPH graduate level course | | 6 | Varies |
| Course Distribution | | Credits | |
| Public Health Core Courses | | 17 | |
| Culminating Experience | | 2 | |
| Required Departmental Courses | | 12 | |
| Required Program-Specific Courses | | 4 | |
| Program-Specific Electives | | 4 | |
| School of Public Health Electives | | 6 | |
| Total Degree Credits | | 45 | |

* Note: In PUBH 6021 and PUBH 6022, the Applied Practice Experience (Practicum) will be introduced and guidelines and tools for fulfilling this requirement will be provided. Upon completion of the 120-hour required practicum, students will receive credit for PUBH 6022.

Course Descriptions and Registration information can be found on the website:
<http://publichealth.gwu.edu/academics/>.

MPH Graduation Requirements

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 (Practicum) to receive credit for PUBH 6022.
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. External credits must have been earned from an accredited institution in the last three (3) years with a grade of 3.0 (B) or better. SPH Graduate Certificate students can transfer as many credits as meet program requirements, up to 18 credits, to the MPH. Graduate Certificate students wishing to transfer to a degree program may apply to do so via the online change of concentration petition after completion of three (3) or more courses and a cumulative GPA of 3.0 or better. A grade of B or better is required for a course to be eligible for transfer.

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 <https://about.citiprogram.org/en/homepage/> in Human Research Subjects.
9. **Integrity Quiz & Plagiarism Quiz 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 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. Remember to submit your documentation before you apply to graduate!

MPH ADVISING TIPS

Students will be assigned to a faculty member affiliated with this MPH Program for academic advising. Always consult with your advisor for course scheduling and sequencing strategies, but remember that proper course selection, fulfilling requirements, and on-time graduation are your responsibilities. Students and advisors are expected to meet regularly, at least once per term.

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

- Required Core Courses
- Required Department and Program-Specific Courses
- Program-Specific Electives and general SPH Electives
- Required Culminating Experience

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:

- Following (or simultaneous to) enrollment in PUBH 6021 *Essentials in Public Health Practice & Leadership 1: Leading Self and Teams* (1-credit), students will be required to select an IPE experience from a host of options provided throughout your enrollment as a MPH student to participate in a one-time, case-based or activity-based learning experience. The IPE experience is a way to experience working with people from other professions/programs outside of public health. Students will have many opportunities to register for this zero-credit (no fee) IPE 'class' (PUBH 6023- *Interprofessional Education Experience*) and will receive credit upon successful completion.

Applied Practice Experience (Practicum):

- The applied practice experience allows each student to individually demonstrate attainment of public health competencies. Information about the Practicum will be introduced in PUBH 6021 so students may begin planning for their practice experience. As a part of the content of PUBH 6022 *Essentials in Public Health Practice & Leadership 2: Managing Organizations & Influencing Systems* (1-credit), detailed information and an introduction to the necessary tools will be provided. Students are required to fulfill all requirements of the 120 hour Practicum experience to receive credit for this PUBH 6022.

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).
- Students may take core courses in any order, though advisors often have recommendations.

Part-time students (who generally take 5 to 7 credits per semester) will typically concentrate on taking just core courses in their first year, and then take program-specific courses in their second and third years.

In order to help assure that all students complete core courses in the first year of study, Milken Institute SPH will offer all 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.

Practicum- Students should begin planning their practicum at the halfway mark in the program at least one semester prior to beginning the practicum. Consult with the departmental practicum coordinators and your advisor regarding practicum requirements.

Culminating Experience-The culminating experience may be completed concurrently or following the practicum. Planning for the culminating experience should also begin at least one semester before you wish to register for the course.

For additional information and resources regarding registration, course descriptions, schedule of classes, etc. follow this link: <http://publichealth.gwu.edu/academics>.

Below find sample course schedules, Table 1 (full time students) and Table 2 (part time students) for Epidemiology MPH students.

SAMPLE SCHEDULE for MPH in Epidemiology- 45 credits

Table 1. *Sample Schedule for 5-semester Completion (Fall start / May completion) - All course times are tentative.*

Fall Semester 1st year (9-11 credits)

PUBH 6002 (3 credits)

PUBH 6003 (3 credits)

PUBH 6021 (1 credit)

Select from PUBH 6007, PUBH 6011, and PUBH 6012 (2-3 credits)

Spring Semester 1st year (9-11 credits)

PUBH 6247 and/or PUBH 6853 (3-6 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, PUBH 6012, PUBH 6022

(2-5 credits)

Select PUBH 6xxx (2-4 credits) Epidemiology Content Course; Epi or SPH electives

Summer 1st year (4-6 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, PUBH 6012, PUBH 6022 (2-5 credits)

Select PUBH 6xxx (1-4 credits) Epi or SPH electives

Fall Semester 2nd year (9-11 credits)

PUBH 6247 or PUBH 6853 (if needed) (3 credits)

Select from PUBH 6260 or PUBH 6252 (3 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, PUBH 6012, PUBH 6022(2-3 credits to finish core)

Select PUBH 6xxx (2-4 credits) Epidemiology Content Course; Epi or SPH electives

PUBH 6023 (0 credits)

Spring Semester 2nd year (9-11 credits)

Select from PUBH 6260 or PUBH 6252 (3 credits)

PUBH 6015 (2 credits)

Select PUBH 6xxx (2-4 credits) Epidemiology Content Course; Epi or SPH electives

Summer Semester 2st year (2-4 credits)

Select PUBH 6xxx (2-4 credits) Epidemiology Content Course; Epi or SPH electives

Table 2. *Sample Schedule for 8-semester Completion (Fall start / May completion) - All course times are tentative*

Fall Semester 1st year (7 credits)

PUBH 6002 (3 credits)
PUBH 6003 (3 credits)
PUBH 6021 (1 credit)

Spring Semester 1st year (6 credits)

Select 2 courses from PUBH 6007, , PUBH 6011, and PUBH 6012 (2-6 credits)

Summer 1st year (3 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, and PUBH 6012 (2-3 credits)

or

Select PUBH 6xxx (1-3 credits) Epi or SPH electives

Fall Semester 2nd year (7 credits)

PUBH 6247 and/or PUBH 6853 (3-6 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, PUBH 6012, PUBH 6022 (2-4 credits)

Spring Semester 2nd year (7 credits)

PUBH 6247 and/or PUBH 6853 (3-6 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, PUBH 6012, PUBH 6022 (2-4 credits)

Summer 2nd year (3 credits)

Select from PUBH 6007, PUBH 6009, PUBH 6011, and PUBH 6012 (2-3 credits)

or

Select PUBH 6xxx (1-3 credits) Epi or SPH electives

Fall Semester 3rd year (7 credits)

Select from PUBH 6260 or PUBH 6252 (3 credits)

Select PUBH 6xxx (2-4 credits) Epidemiology Content Course; Epi or SPH electives

PUBH 6023 (0 credits)

Spring Semester 3rd year (7 credits)

Select from PUBH 6260 or PUBH 6252 (3 credits)

PUBH 6015 (2 credits)

Select PUBH 6xxx (2 credits) Epidemiology Content Course; Epi- or SPH electives