

# EPIDEMIOLOGY (MS)

**NYSED:** 40722 **HEGIS:** 0419.00 **CIP:** 26.1309

## Program Description

The Master of Science in Epidemiology is a research-focused degree that prepares students to design and conduct epidemiologic studies as well as analyze, interpret, model, and report on data from public health, health care, biomedical, clinical and population-based studies.

## Focus Areas

There are four program focus areas that allow students to develop a specific area of content or methodological expertise:

- General Epidemiology
- Infectious Disease Epidemiology
- Noncommunicable Disease Epidemiology
- Modeling

Graduates from the program will be prepared to assume collaborative research team member roles in public health and healthcare settings around the globe with a skillset that has both breadth and depth. They can also pursue doctoral level studies in epidemiology, biostatistics, or other quantitative health fields. In addition, the MS in Epidemiology can serve as a terminal degree for those interested in working as a master's level project director/coordinator or statistician/data analyst in a wide array of research settings including government, academia, industry (e.g., pharmaceutical companies, contract research organization, healthcare consulting), non-governmental organizations, and nonprofit and community-based organizations.

## Admissions

All applications to MPH or MS programs at NYU GPH must be submitted through SOPHAS (<https://sophas.org/>), the common application for schools and programs of public health. You are required to select a single area of concentration when you apply, and we encourage you to research the different concentrations available to identify one which best aligns with your interests.

In general, the elements of a complete application include:

- SOPHAS application form
- Official transcripts from each institution attended (or an evaluation of your credentials if you graduated from a foreign institution)
- Three letters of recommendation
- Personal statement
- Resume/CV
- English language proficiency exam results for all applicants whose native language is not English and who did not receive the equivalent of a US bachelor's degree at an institution where English is the primary language of instruction.

## Program Requirements

Course	Title	Credits
<b>Required Courses</b>		
GPH-GU 2106	Epidemiology	3
GPH-GU 2450	Intermediate Epidemiology	3
GPH-GU 2930	Epidemiological Methods and Design	3

GPH-GU 3175	Design, Conduct, and Analysis of Cohort Studies	3
GPH-GU 2995	Biostatistics for Public Health	3
GPH-GU 2353	Regression I: Linear Regression and Modeling (3).	3
GPH-GU 2354	Regression II: Categorical Data Analysis	3
GPH-GU 2387	Survey Design, Analysis, and Reporting	3
GPH-GU 2152	Introduction to Agent-Based Modeling	3
GPH-GU 2190	Essentials of Public Health Biology	3
GPH-GU 5170	Introduction to Public Health	0

### Concentration Courses

Select one Focus Area of the following:	12
General Epidemiology	
Infectious Disease Epidemiology	
Noncommunicable Disease Epidemiology	
Modeling	

### Culminating Experience

GPH-GU 2686	Thesis I: Practice and Integrative Learning Experiences	2
GPH-GU 2687	Thesis II: Practice and Integrative Learning Experiences	2

**Total Credits** 46

## Focus Areas

### General Epidemiology

Course	Title	Credits
<b>Concentration Courses</b>		
All students in the General Epidemiology focus area take the following courses.		
GPH-GU 2324	Infectious Disease Epidemiology <sup>1</sup>	3
GPH-GU 2230	Global Non-Communicable Disease Prev & Control	3

### Electives

Select two of the following:	6	
GPH-GU 2355	Analysis of Epidemiologic Data Using SAS	
GPH-GU 2325	Behavioral Communication Strategies for Global Epidemics	
GPH-GU 2363	Causal Inference: Design and Analysis	
GPH-GU 5380	Data-Driven Decision-Making in Global Public Health	
GPH-GU 2440	Emerging Diseases and Bioterrorism	
GPH-GU 3220	Experimental Study Designs in Epidemiology	
GPH-GU 2342	Global Issues in Public Health Nutrition	
GPH-GU 2140	Global Issues in Social & Behavioral Health	
GPH-GU 5120	HIV/AIDS from a Global Perspective	
GPH-GU 2480	Longitudinal Analysis of Public Health Data	
GPH-GU 2344	Maternal and Child Nutrition in Public Health	
GPH-GU 2275	Nutrition Epidemiology for Public Health	
GPH-GU 2227	Psychiatric Epidemiology	
GPH-GU 2345		
GPH-GU 2374		
GPH-GU 2255	Substance Use and Public Health <sup>2</sup>	

**Total Credits** 12

1

This course replaces GPH-GU 2440 Emerging Diseases and Bioterrorism as of Fall 2022. Students who took GPH-GU 2440 Emerging Diseases and Bioterrorism prior to Fall 2022 will still receive credit for fulfilling this requirement.

2

This course was previously called Psychoactive Drug Use in Public Health.

## Infectious Disease Epidemiology

Course	Title	Credits
<b>Concentration Courses</b>		
All students in the Infectious Disease Epidemiology focus area take the following course.		
GPH-GU 2324	Infectious Disease Epidemiology <sup>1</sup>	3
<b>Content Courses</b>		
Select two of the following:		6
GPH-GU 2232	Detection and Control of Waterborne Pathogens	
GPH-GU 2440	Emerging Diseases and Bioterrorism	
GPH-GU 5120	HIV/AIDS from a Global Perspective	
<b>Content or Methods Courses</b>		
Select one of the following:		3
GPH-GU 2355	Analysis of Epidemiologic Data Using SAS	
GPH-GU 2368	Applied Survival Analysis	
GPH-GU 2325	Behavioral Communication Strategies for Global Epidemics	
GPH-GU 2232	Detection and Control of Waterborne Pathogens	
GPH-GU 2440	Emerging Diseases and Bioterrorism	
GPH-GU 3220	Experimental Study Designs in Epidemiology	
GPH-GU 2140	Global Issues in Social & Behavioral Health	
GPH-GU 5120	HIV/AIDS from a Global Perspective	
GPH-GU 2480	Longitudinal Analysis of Public Health Data	
GPH-GU 2374		
<b>Total Credits</b>		<b>12</b>

1

This course replaces GPH-GU 2440 Emerging Diseases and Bioterrorism as of Fall 2022. Students who took GPH-GU 2440 Emerging Diseases and Bioterrorism prior to Fall 2022 will still receive credit for fulfilling this requirement.

## Noncommunicable Disease Epidemiology

Course	Title	Credits
<b>Concentration Courses</b>		
All students in the Non-Communicable Disease Epidemiology focus area take the following course.		
GPH-GU 2230	Global Non-Communicable Disease Prev & Control	3
<b>Content Courses</b>		
Select two of the following:		6
GPH-GU 2275	Nutrition Epidemiology for Public Health	
GPH-GU 2255	Substance Use and Public Health	
GPH-GU 2227	Psychiatric Epidemiology	
<b>Content or Methods Courses</b>		
Select one of the following:		3

GPH-GU 2355	Analysis of Epidemiologic Data Using SAS	
GPH-GU 2368	Applied Survival Analysis	
GPH-GU 3220	Experimental Study Designs in Epidemiology	
GPH-GU 2342	Global Issues in Public Health Nutrition	
GPH-GU 2140	Global Issues in Social & Behavioral Health	
GPH-GU 2480	Longitudinal Analysis of Public Health Data	
GPH-GU 2227	Psychiatric Epidemiology	
GPH-GU 2374		
<b>Total Credits</b>		<b>12</b>

1

This course replaces GPH-GU 2440 Emerging Diseases and Bioterrorism as of Fall 2022. Students who took GPH-GU 2440 Emerging Diseases and Bioterrorism prior to Fall 2022 will still receive credit for fulfilling this requirement.

## Modeling

Course	Title	Credits
<b>Concentration Courses</b>		
All students in the Modeling Concentration focus area take the following course.		
GPH-GU 3152	Advanced Agent-Based Modeling	3
<b>Content Courses</b>		
Select three of the following:		9
GPH-GU 2355	Analysis of Epidemiologic Data Using SAS	
GPH-GU 2368	Applied Survival Analysis	
GPH-GU 2363	Causal Inference: Design and Analysis	
GPH-GU 3220	Experimental Study Designs in Epidemiology	
GPH-GU 2230	Global Non-Communicable Disease Prev & Control	
GPH-GU 2324	Infectious Disease Epidemiology <sup>1</sup>	
GPH-GU 2480	Longitudinal Analysis of Public Health Data	
GPH-GU 2374		
<b>Total Credits</b>		<b>12</b>

1

This course replaces GPH-GU 2440 Emerging Diseases and Bioterrorism as of Fall 2022. Students who took GPH-GU 2440 Emerging Diseases and Bioterrorism prior to Fall 2022 will still receive credit for fulfilling this requirement.

## Sample Plan of Study

Course	Title	Credits
<b>1st Semester/Term</b>		
GPH-GU 2106	Epidemiology	3
GPH-GU 2995	Biostatistics for Public Health	3
GPH-GU 2152	Introduction to Agent-Based Modeling	3
GPH-GU 2190	Essentials of Public Health Biology	3
<b>Credits</b>		<b>12</b>
<b>2nd Semester/Term</b>		
GPH-GU 2450	Intermediate Epidemiology	3
GPH-GU 2353	Regression I: Linear Regression and Modeling (3).	3
Elective or Concentration Course		3
Elective		3
GPH-GU 5170	Introduction to Public Health	0
<b>Credits</b>		<b>12</b>
<b>3rd Semester/Term</b>		
GPH-GU 2930	Epidemiological Methods and Design	3

GPH-GU 2354	Regression II: Categorical Data Analysis	3
GPH-GU 2686	Thesis I: Practice and Integrative Learning Experiences	2
GPH-GU 2387	Survey Design, Analysis, and Reporting	3
<b>Credits</b>		<b>11</b>
<b>4th Semester/Term</b>		
GPH-GU 3175	Design, Conduct, and Analysis of Cohort Studies	3
GPH-GU 2687	Thesis II: Practice and Integrative Learning Experiences	2
Elective or Concentration course		3
Elective		3
<b>Credits</b>		<b>11</b>
<b>Total Credits</b>		<b>46</b>

## Learning Outcomes

Upon completion of the Epidemiology Master of Science degree, graduates will have the skills and competencies to:

1. Explain and provide examples of fundamental epidemiological concepts (e.g., prevalence, incidence, odds ratio, relative risk, attributable risk, direct and indirect standardization, standardized mortality ratio, cross-sectional, case-control, cohort, precision, bias, confounding, effect modification).
2. Critically evaluate the application of epidemiologic methods to answer public health questions.
3. Conduct quantitative analyses skills of epidemiologic data using statistical software.
4. Explain and provide examples of the application of epidemiologic methods to the study of the social determinants of health.
5. Synthesize the extant epidemiologic literature and identify its limitations and gaps.
6. Design robust observational and experimental studies to address public health and clinical problems.
7. Effectively communicate epidemiologic findings orally, visually, and in writing.
8. Understand and apply principles of ethical conduct to epidemiological studies.
9. Critically evaluate and apply dynamic models of epidemiologic phenomena using equation- and agent-based models.

## Policies

### NYU Policies

University-wide policies can be found on the New York University Policy pages (<https://bulletins.nyu.edu/nyu/policies/>).

### School of Global Public Health Policies

A list of related academic policies can be found on the School of Global Public Health academic policies page (<https://bulletins.nyu.edu/graduate/global-public-health/academic-policies/>).