

DOCTOR OF PHILOSOPHY IN THE FIELD OF HEALTH DATA SCIENCE, APPLIED BIostatISTICS CONCENTRATION

Program Co-Directors: G. Diao, and T. Hamasaki

The doctor of philosophy in health data science develops data science leaders for applications in public health and medicine. The program advances the field by:

- Providing rigorous training in the fundamentals of health and biomedical data science.
- Fostering innovative thinking for the design, conduct, analysis, and reporting of public health research studies.
- Providing practical training through real-world research opportunities at research centers and institutes directed by departmental faculty.

Students choose one of two concentrations: applied biostatistics or applied bioinformatics.

The program offers a unique blend of the two disciplines, which helps practitioners become successful collaborators in interdisciplinary research. Each concentration focuses on the foundations of the respective discipline to acquire fundamental knowledge and experience in the subject area while gaining core knowledge in the foundations of the other concentration.

Visit the program website (<https://publichealth.gwu.edu/content/health-and-biomedical-data-science-phd/>) for additional information.

ADMISSIONS

Visit the Milken Institute School of Public Health website (<https://publichealth.gwu.edu/>) for additional information about academic programs and information about GWSPH. Graduate admissions information, including application requirements and deadlines, can be found on the GWSPH Graduate Admissions website (<https://publichealth.gwu.edu/admissions/graduate-admissions/>).

REQUIREMENTS

The following requirements must be fulfilled: 72 credits, including 14 credits in core courses, 28 credits in concentration-specific courses, a minimum of 12 credits in elective courses, 3 credits in practicum courses, and a minimum of 12 credits in dissertation research. In addition, students are required to complete the University's Graduate Teaching Assistantship Certificate program.

Code	Title	Credits
Required		
Core courses		

PUBH 6080	Pathways to Public Health
PUBH 6421	Responsible Conduct of Research (taken for 1 credit)
PUBH 6850	Introduction to SAS for Public Health Research
PUBH 6851	Introduction to R for Public Health Research
PUBH 6852	Introduction to Python for Public Health Research
PUBH 6860	Principles of Bioinformatics
PUBH 6886	Statistical and Machine Learning for Public Health Research
PUBH 8099	Doctoral Topics (Cross Cutting Concepts in Public Health; taken for 1 credit)
PUBH 8870	Statistical Inference for Public Health Research I
Applied biostatistics concentration-specific courses	
PUBH 6866	Principles of Clinical Trials
PUBH 6869	Principles of Biostatistical Consulting
PUBH 8879	An Introduction to Causal Inference for Public Health Research
PUBH 6887	Applied Longitudinal Data Analysis for Public Health Research
PUBH 8871	Statistical Inference for Public Health Research II
PUBH 8875	Linear Models in Biostatistics
PUBH 8877	Generalized Linear Models in Biostatistics
PUBH 8878	Statistical Genetics
PUBH 8880	Statistical Computing for Public Health Research
STAT 6227	Survival Analysis

Electives

A minimum of 12 credits in elective courses, including at least 3 credits in bioinformatics courses, at least 3 credit in biostatistics courses, and at least 3 credits in cognate area courses.

Practicum courses (counseling and research)

PUBH 8283	Doctoral Biostatistics Consulting Practicum
PUBH 8413	Research Leadership

Dissertation research

PUBH 8999 Dissertation Research (taken for 12 to 15 credits)

Additional requirements

Additional program requirements include, but are not limited to completion of the University's Graduate Teaching Assistantship Program Certificate, which includes enrollment in UNIV 0250. The 1 credit earned in UNIV 2050 does not count toward the total number required for the degree.

*Visit the GTAP website (<https://gradfellowships.gwu.edu/graduate-teaching-assistantship-program-gtap/>) for additional information.